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Canada. Civil aviation branch
Notices to airmen (NOTAM)

Feb 1/71 -



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NOTAM
Notices to airmen



CAIT 20

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Government
Publications

Air Traffic Control

1/71

1st February

MINISTRY OF TRANSPORT

CANADIAN AIR TRANSPORTATION ADMINISTRATION

Page 1 of 2

VHF DIRECTION FINDING SERVICE
(Supplementing Part 7 of Flight Information Manual)

General

The Ministry of Transport will be installing VHF Direction Finding equipment at selected airports across Canada during the next three years.

The first unit will be installed at Montreal International Airport in the spring of 1971. As each unit is installed, operational testing will be performed. During the testing phase, pilots may be requested to provide assistance in the form of visual position reports for correlation purposes.

Commissioning of equipment at individual sites will be advertised by Class I NOTAM.

Purpose

The purpose of the DF installations, initially, is to provide "homing" to the DF station. This equipment will not be used for other navigation purposes or as an approach aid. At locations where radar is available, radar may be used in conjunction with DF to provide additional navigation assistance.

Equipment Operation

DF information is electronically derived from radio signals transmitted from the aircraft. Since very high frequency (VHF) transmissions are restricted to line-of-sight, altitude and location of the aircraft may limit the provision of the service. As in radio communication the power of the transmitted signal will affect reception distance. Information may be obtained from either a modulated signal (Speech transmission) or an unmodulated signal (mike button pressed - no speech). The length of the transmission is not critical since information can be obtained from a very short transmission (2 seconds).

The DF equipment will normally be set to receive on the control tower's primary air/ground frequency.

Provision of Service

DF service will be provided when requested by the pilot or when suggested by ATC and accepted by the pilot.

ATC will provide the pilot with headings (degrees magnetic) required for homing to the airport at which the DF station is located.

Procedures

Pilots requesting DF service shall provide the tower with the following information:

- A. Position of aircraft, if known.
- B. Present heading.
- C. Altitude.

EXAMPLE:

MONTREAL TOWER THIS IS HOTEL GOLF BRAVO. REQUEST DF HOMING.
APPROXIMATELY 20 MILES NORTH-EAST OF MONTREAL. HEADING 170.
5 THOUSAND.

The tower will provide the pilot with the headings required for homing to the DF station.

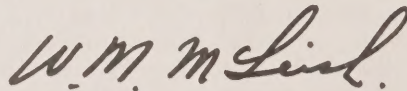
EXAMPLE:

HGB MONTREAL TOWER. FOR HOMING TO MONTREAL INTERNATIONAL
STEER HEADING 220.

EXAMPLE:

HGB TRANSMIT FOR HOMING.

These procedures do not relieve the pilots of VFR aircraft of their responsibility to see and avoid other traffic, to maintain appropriate terrain and obstruction clearance, or to remain in VFR weather conditions.

A handwritten signature in dark ink, reading "W.M. McLeish." The signature is written in a cursive, flowing style.

W.M. McLeish,
Director, Civil Aviation.

Canada
Civil Aviation Branch
Notices to Airmen

NOTAM



Government
Publications

Air Traffic Control

5/71
15th April

MINISTRY OF TRANSPORT

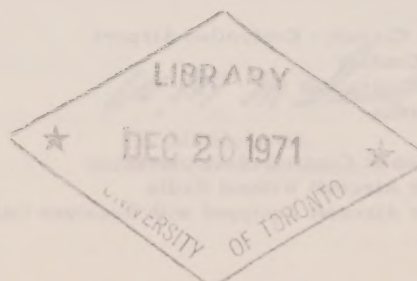
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AIR TRAFFIC CONTROL PROCEDURES

(Superseding NOTAM 12/70, 14/70 and Part 6 of the 1970 edition of Flight Information Manual)

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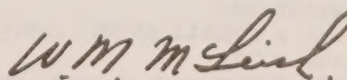
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W.M. McLeish,
Director, Civil Aviation.

AIR TRAFFIC CONTROL PROCEDURES

GENERAL

AIR TRAFFIC SERVICES

Airport Control Service: Control towers provide this service to aircraft and vehicles on the manoeuvring area of an airport and to arriving and departing aircraft operating in the vicinity of an airport.

Area Control Service: Area control centres (ACC) provide this service to IFR and Controlled VFR flights operating within controlled airspace.

Terminal Control Service: This service is provided by either an ACC or a terminal control unit (TCU) to arriving and departing IFR aircraft at major airports.

Extended Terminal Control Service: An additional service provided to VFR aircraft operating within high density traffic areas.

Alerting Service: The service provided by ACCs and towers to notify appropriate organizations regarding aircraft in need of Search and Rescue aid, alerting of crash equipment, ambulances, doctors and any other such safety services.

Flight Information Service: Air traffic control units provide, wherever possible, advice and useful information for the safe and efficient conduct of flights.

Airspace Reservation Service: The service provided by the Airspace Reservation Co-ordination Office (ARCO) and ACCs to provide reserved airspaces for specified air operations in controlled airspace and to provide information concerning these reservations.

Customs Notification Service (ADCUS): The service provided, on request, by ATC units for advance notification to Custom Officials for trans-border flights at specified "ports of entry". Complete information is contained in the Information Circular entitled "Customs and Immigration".

IDENTIFICATION OF AIR TRAFFIC CONTROL UNITS

Air Traffic Control Units are identified by the name of the airport or location, followed by the appropriate indication of the unit or function concerned.

Examples: OTTAWA TOWER - airport control tower.

OTTAWA GROUND - ground control function of control tower.

OTTAWA CLEARANCE DELIVERY - IFR clearance delivery function.

CALGARY TERMINAL - terminal control unit.

CALGARY ARRIVAL - arrival control function of terminal control unit.

CALGARY DEPARTURE - departure control function of terminal control unit.

CALGARY PRECISION - precision radar approach facility.

MONCTON CENTRE - area control centre.

Since surveillance radar, where available, is used by all controllers in the provision of control service, it is not necessary to use the word "radar" in the identification of an ATC unit in order to obtain radar service.

CALL SIGNS - CIVIL AIRCRAFT

In radiotelephony, civil aircraft should be identified as follows:

Canadian Air Carriers - the operator's name or assigned designation followed by:

- (a) the flight number, or
- (b) the last three characters of the registration

Foreign Air Carriers - the operator's name or assigned designation followed by:

- (a) the flight number, or
- (b) the full aircraft registration.

Operator of Canadian Private Aircraft - the manufacturer's name or type of aircraft followed by the last three characters in the registration, e. g. Cessna ADT.

Operator of Foreign Private Aircraft - the manufacturer's name or type of aircraft followed by the full aircraft registration, e. g. Aztec N6379P.

After communication has been established and when no likelihood of confusion exists, abbreviated call signs may be used as follows:

Canadian Air Carrier - no abbreviations permitted.

Foreign Air Carrier - where operator's name or assigned designator followed by aircraft registration is used, the registration may be abbreviated to not less than the last 2 characters, e. g. Speed-bird G-ABCD becomes Speedbird CD.

Operator of Canadian Private Aircraft - Manufacturer's name or type of aircraft may be omitted, e. g., ADT.

Operator of Foreign Private Aircraft - abbreviate to first and last three characters of the registration. Manufacturer's name or type of aircraft may be omitted, e. g., N79P.

UNITS OF MEASUREMENT

The following units of measurement are used in the Canadian ATC system.

Speed - Knots, except in the case of surface wind speed which is reported in statute miles per hour.

Distance - Nautical miles, except in the case of visibility which is reported in statute miles.
(RVR - feet)

Time - Greenwich Mean Time (GMT or "Z") and the 24-hour clock system are used for all operational purposes.

Time is normally expressed in four figures, the first two indicating the hour past midnight, the last two indicating the minutes. When no misunderstanding is likely to occur, time may be expressed in minutes only (2 figures).

The time group 0000Z is used to indicate the start of the new day, e. g. 152359Z, 160000Z.

To convert from standard
time (24-hour clock)

to Greenwich Mean Time

Newfoundland	ADD 3½ hrs.
Atlantic	ADD 4 hrs.
Eastern	ADD 5 hrs.
Central	ADD 6 hrs.
Mountain	ADD 7 hrs.
Pacific	ADD 8 hrs.
Yukon	ADD 9 hrs.

Where daylight saving time is in use, reduce conversion factors by one hour.

Flight crews are responsible for ensuring the accuracy of their clocks or other time recording devices. Time checks will be given to departing aircraft on initial contact with ground control or tower, and to other aircraft on request. Time checks will be given in four figures to the nearest minute, e. g., two two three four.

Altimeter Setting (QNH) - Inches of mercury, to the nearest hundredth.

In air-ground communications, the altimeter setting is expressed by stating the word "altimeter" followed by the four separate digits of the setting.

Example: Altimeter two nine nine six.

NUMBERS

Numbers, generally, are to be transmitted by pronouncing each digit separately.

Examples:	10	One Zero
	75	Seven Five
	100	One Zero Zero
	583	Five Eight Three
	1735	One Seven Three Five
	11002	One One Zero Zero Two
	38143	Three Eight One Four Three

Cruising altitudes within

- the altimeter setting region are expressed in thousands and hundreds of feet, e. g., 4500 - four thousand five hundred, 11000 - one one thousand, 17500 - one seven thousand five hundred.
- the standard pressure region are expressed in terms of flight levels with each digit spoken separately, e. g., FL 190 - flight level one nine zero, FL 270 - flight level two seven zero.

Decimal points are indicated by the word "DECIMAL".

Example: 118.1 One One Eight Decimal One

Headings are defined in degrees magnetic, expressed as a three-digit number, omitting the word "degrees". "Heading 360" is used to signify a north heading.

Example	005 degrees	Heading Zero Zero Five
	030 degrees	Heading Zero Three Zero
	350 degrees	Heading Three Five Zero

PHONETICS

Phonetic letter equivalents should be used for single letters or to spell out groups of letters or words whenever considered necessary to ensure understanding. Pilots are encouraged to use phonetics in aircraft call signs, especially on the initial contact.

The International Civil Aviation Organization (ICAO) phonetic equivalents should be used:

A - ALFA	J - JULIETT	S - SIERRA
B - BRAVO	K - KILO	T - TANGO
C - CHARLIE	L - LIMA	U - UNIFORM
D - DELTA	M - MIKE	V - VICTOR
E - ECHO	N - NOVEMBER	W - WHISKEY
F - FOXTROT	O - OSCAR	X - X-RAY
G - GOLF	P - PAPA	Y - YANKEE
H - HOTEL	Q - QUEBEC	Z - ZULU
I - INDIA	R - ROMEO	

0 - ZE-RO	5 - FIFE
1 - WUN	6 - SIX
2 - TOO	7 - SEV-en
3 - TREE	8 - AIT
4 - FOW-er	9 - NIN-er

Capitalized syllables are given equal stress; e.g., ZE-RO. When only one syllable is capitalized, that syllable is given primary stress; e.g., NIN-er.

ACKNOWLEDGEMENT OF ATC MESSAGES

A pilot shall acknowledge the receipt of all ATC messages directed to and received by him. Such acknowledgement may take the form of a transmission of the aircraft call sign; the call sign followed by an appropriate word(s); or, in cases where the text of the message includes the aircraft call sign, a read-back of the message by the pilot will constitute acknowledgement.

Examples:	ATC:	JAH OTTAWA TOWER CLEARED TO LAND.
	Pilot:	JAH.
	ATC:	JAH ARE YOU AT FIVE THOUSAND.
	Pilot:	JAH AFFIRMATIVE

NOTE: Clicking of the microphone button as a form of acknowledgement is not considered acceptable radio procedure.

ATC CLEARANCES AND INSTRUCTIONS

Whenever an air traffic control clearance is received and accepted by the pilot, he shall comply with the clearance. If a clearance is not acceptable, the pilot should immediately inform ATC of this fact, since acknowledgement of the clearance, alone, will be taken by a controller as indicating acceptance. For example, on receiving a clearance for take-off, the pilot should acknowledge the clearance and take-off without undue delay or, if not ready to take-off at that particular time, inform ATC of his intentions in which case the clearance may be changed or cancelled.

A pilot shall comply with an air traffic control instruction which is directed to and received by him providing the safety of the aircraft is not jeopardized.

A clearance will be identified by use of some form of the word "clear" in its content. An instruction will always be worded in such manner as to be readily identified, although the word "instruct" will seldom be included.

Remember that control is predicated on known air traffic only and, when complying with clearances or instructions, pilots are not relieved of the responsibility for practicing good airman-ship.

RADAR

The use of radar increases airspace utilization by allowing ATC to reduce the separation interval between aircraft. In addition, radar permits an expansion of flight information services such as traffic and weather information, navigation assistance, and assistance to lost aircraft.

Radar Systems

Four basic types of radar systems are currently in use. These are:

Airport and Airways Surveillance Radar (AASR) - a medium range radar designed for both airway and airport surveillance applications.

Airport Surveillance Radar (ASR) - relatively short range radar intended primarily for surveillance of airport and terminal areas.

Precision Approach Radar (PAR) - a high definition, short range radar used as an approach aid. This system provides the controller with altitude, azimuth and range information of high accuracy for the purpose of assisting the pilot in executing an approach and landing. This form of navigational assistance is termed a "Precision Radar Approach",

Secondary Surveillance Radar (SSR) - a radar system that requires complementary aircraft equipment (transponder). The transponder generates a coded reply signal in response to transmissions from the ground station (interrogator). Since this system relies on transponder generated signal rather than signal reflected from the aircraft, as in primary radar, it offers significant operational advantages such as increased range and positive identification.

Radar Procedures

Before providing radar service, ATC will establish identification of the aircraft concerned. Pilots will be notified whenever radar identification is established or lost.

Examples: RADAR IDENTIFIED, or
RADAR IDENTIFICATION LOST.

Radar vectoring is used when necessary for separation purposes, when required by noise abatement procedures, when requested by the pilot, or whenever vectoring will offer operational advantages to the pilot or the controller. When vectoring is initiated, the pilot will be informed of the location to which the aircraft is being vectored.

Examples: TURN LEFT HEADING 050 FOR VECTORS TO VICTOR 300.
MAINTAIN HEADING 020 FOR VECTORS TO THE VANCOUVER VOR 054 RADIAL.
DEPART KLEINBURG BEACON ON HEADING 240 FOR VECTORS TO FINAL
APPROACH COURSE.

Pilots will be informed when radar vectoring is terminated, except when an arriving aircraft is vectored to the final approach course or to the traffic circuit.

Example: RESUME NORMAL NAVIGATION.

When an aircraft is vectored to final approach or to the traffic circuit, the issuance of approach clearance indicates that normal navigation should be resumed.

Normally radar service will be continued until an aircraft leaves the area of radar coverage, enters uncontrolled airspace, or is transferred to an ATC unit not equipped with radar. When radar service is terminated the pilot will be informed accordingly.

Example: RADAR SERVICE TERMINATED.

Obstacle Clearance During Radar Vectors

The pilot of an IFR flight is responsible for ensuring that his flight is operated with adequate clearance from obstacles and terrain, as specified in The Air Regulations, Section 551. However, when an IFR flight is being radar-vectored, air traffic control will ensure that the appropriate obstacle clearance is provided.

Minimum radar transition altitudes, which may be lower than minimum altitudes shown on navigation and approach charts, have been established at a number of locations to facilitate

transitions to instrument approach aids. When an IFR flight is cleared to descend to the lower altitude, ATC will provide terrain and obstacle clearance until the aircraft is in a position from which an approved instrument approach or a visual approach can be commenced.

If a communication failure occurs while a flight is being vectored at an altitude below the minimum IFR altitudes shown on the instrument approach chart, the pilot should climb immediately to the appropriate published minimum altitude, unless able to continue in VFR weather conditions.

Secondary Surveillance Radar

Regulations concerning transponders are contained in the "Secondary Surveillance Radar Transponder Order (ANO, SERIES II, No. 10)". When instructions concerning transponder operation are received from ATC, the transponder shall be operated as directed until further instructions are received or until the aircraft has landed, except in the case of an emergency or communication failure.

Air traffic controllers will use the following phraseology when referring to the operation of transponder equipment:

NOTE: Mode A is known to military pilots as "mode three", therefore ATC refers to this mode as "alpha three".

SQUAWK ALPHA THREE CODE (number) - Operate transponder on specified mode and code. (Transponder has not been operating on Mode A/3).

SQUAWK CODE (number) - Operate transponder on specified code. (Transponder is already operating on Mode A/3).

SQUAWK IDENT - Engage the identification ("IDENT") feature of the transponder.

SQUAWK CODE (number) AND IDENT - Operate transponder on a different code and engage the "IDENT" feature. (Transponder is already operating on Mode A/3.)

SQUAWK ALPHA THREE CODE (number) AND IDENT - Operate transponder on specified mode and code and engage the "IDENT" feature. (Transponder has not been operating on Mode A/3.)

SQUAWK STANDBY - Switch transponder to "standby" position, retaining present mode and code.

SQUAWK LOW/NORMAL - Operate transponder on low or normal sensitivity, as specified. (Transponder is operated on normal sensitivity unless ATC specified "low". "ON" is used instead of "NORMAL" as a label on some transponder control panels.)

SQUAWK MAY DAY CODE SEVEN SEVEN - Operate transponder on Mode A/3, Code 77.

STOP SQUAWK - Switch off transponder.

At the present time, ATC makes use of only the basic 64 codes in Mode A/3. In the assignment of codes, a two-digit code designation is used; e.g., Code 21 will be stated as Code Two One. When the aircraft is equipped with four-digit code, the pilot shall select the designated digits followed by two zeros, e.g., Code 21 assignment - select 2100.

In the near future, SSR with 4096 code capability will be in operation in the Canadian ATC environment. Four-digit code assignment will then be put into practice in conjunction with revised procedures for SSR code allocation.

FLIGHT PLANNING

Air Navigation Order, Series V, No. 4 defines the requirements respecting flight plans and flight notifications. Prior to undertaking the operation of an aircraft, pilots should become familiar with current flight planning procedures.

In the interest of safety, pilots are urged to file flight plans or flight notifications at all times, irrespective of the requirements of the regulations. This practice will provide ATC with information of particular significance if an aircraft fails to arrive at destination.

Since ATC flight following action is based primarily on information provided by the pilot, it is most essential that modifications to flight plans and flight notifications be communicated to the agency or person concerned as soon as possible after the change occurs.

VFR FLIGHT PLANS

Requirements: VFR flight plans are required under the following circumstances:

- (a) at night, or
- (b) to or from a military aerodrome,

except if such flight will be wholly or partly within a sparsely settled area (See ANO Series V, No. 12).

NOTE: Normally flight notifications are filed for flights wholly or partly within sparsely settled areas. However, a VFR flight plan may be filed if the flight begins and ends at a communications base.

Filing Procedures: Flight plans may be filed at an air traffic control unit either directly, or through a communications base such as:

- (a) an aeradio station,
- (b) an operations office (e. g. , flying club, airline dispatch, etc.),
- (c) a designated airport office, etc. ,
- (d) a location served by commercial telephone, radio, etc.

NOTE: Because of possible overloading, air-ground communications frequencies should not be used for the filing of flight plans and flight notifications where alternate methods are available.

When a flight will involve one or more intermediate stops enroute, a single flight plan covering the entire flight may be filed, provided:

- (a) the stop will be of short duration (for purposes such as boarding passengers, refueling, etc.);
- (b) each intermediate stop is indicated by repeating the name of the stopping point in the "Route";
- (c) the duration of each stop is indicated in "Other Information".

Example: "Stops 0 + 30 and 0 + 45".

When intermediate stops are planned, the "Estimated Elapsed Time" must be calculated as the total time to the final destination, including the duration of the intermediate stop(s).

Arrival Reports: In compliance with section 537 of the Air Regulations, arrival reports must be submitted to an ATC unit or an appropriate communications base within 30 minutes after landing. If this is not done, "Search and Rescue" proceedings may be initiated by the agency concerned.

Pilots who choose to file flight plans, rather than flight notifications, to remote locations such as a farm, ranch, lake, resort, etc. , which are outside of designated sparsely settled areas, are cautioned to first make certain that adequate communications are available at destination to permit the filing of an arrival report with ATC within one-half hour after landing. It is important when filing a flight plan for this type of flight that the pilot insert, in the "Other Information" box on the flight plan form, specific information indicating how and from what place his arrival will be reported to ATC.

Example: "Arrival report - telephone from Jones' farm two miles SE Kerrobert to Saskatoon Tower".

The pilot is at all times responsible for the closing of his flight plan. It should not be taken for granted that ATC personnel will automatically file arrival reports at locations served by control towers.

DEFENCE VFR (DVFR) FLIGHT PLANS AND DEFENCE FLIGHT NOTIFICATIONS

Air Navigation Order, Series V, No. 14 defines the conditions under which DVFR flight plans and Defence flight notifications are to be filed. In general, these regulations apply only to aircraft operating at a true airspeed of 180 knots or more.

Essentially, no person shall operate an aircraft into or within a Canadian Air Defence Identification Zone or the DEWIZ unless an IFR or DVFR flight plan or Defence flight notification has been filed with an appropriate ATC unit.

If intermediate stops enroute are planned, separate flight plans must be filed for each stage of the flight unless a flight notification is filed.

IFR FLIGHT PLANS

Requirements: The Air Regulations require that prior to taking off from any point within and prior to entering any controlled airspace during IFR flight, or during IFR weather conditions, a flight plan for the flight containing such information as may be specified by the regulations shall be submitted by the pilot-in-command of the aircraft to the appropriate air traffic control unit.

The timely filing of IFR flight plans with Air Traffic Control is essential to allow control personnel time to extract and record the relevant content, correlate this new data with available information on other traffic under control, coordinate as necessary and determine how the flight may best be integrated with the other traffic.

Accordingly, in order to assist ATC in improving the service provided and to allow for sufficient time for input into the ATC Data Processing system, pilots are urged to file IFR flight plans as early as practicable, preferably 30 minutes prior to their proposed departure time, and to be prepared to depart as closely as possible to the proposed departure time specified in the flight plan.

In the case of transborder flights, where the point of departure is in close proximity to the boundary, flight plans should be filed at least one hour in advance in order to facilitate adequate coordination and data transfer. Compliance with this procedure will minimize departure delays.

NOTE: An IFR flight plan may be filed in lieu of a flight notification when the flight is non-stop and commences and terminates at a communications base.

Filing Procedures: IFR flight plans may be filed at an air traffic control unit either directly or through a communications base. Since ATC utilizes flight plan data in the application of separation standards, pilots should make certain that all significant flight plan modifications such as changes in route, airspeed, destination, etc., are communicated to the appropriate ATC unit.

Flight plans involving intermediate stops enroute may be filed at the initial point of departure under the following conditions:

- (a) for scheduled air carrier flights, provided flight plans are filed in accordance with procedures established by the Area Control Centre concerned;
- (b) for international flights with final destination in a country other than the U.S.A., provided separate flight plans for each stage of the flight are filed;
- (c) for other flights, provided:
 - (i) only one intermediate stop is involved;
 - (ii) both the initial point of departure and the stopping point are in Canada;

- (iii) the stop will be of short duration (for purposes such as boarding passengers, refueling, etc.); and
- (iv) separate flight plans for each stage of the flight are filed.

Arrival Reports and Cancellations: The pilot of an IFR flight for which a flight plan has been filed, shall report his arrival time to an ATC unit or communications base as soon as possible after landing.

Pilots may cancel IFR flight plans or change to VFR flight plans provided they are operating in VFR weather conditions, and are outside the Block Airspace and the controlled airspace between FL230 and FL450.

Where conditions indicate that the remainder of a flight can be conducted in accordance with VFR, the pilot will notify ATC by transmitting one of the following messages:

- (a) to cancel an IFR flight plan:
"CANCEL IFR FLIGHT PLAN", or
- (b) to revise an IFR flight plan to a VFR flight plan:
"CHANGE FLIGHT PLAN TO VFR".

Only an acknowledgement should be expected when either of the above messages is transmitted. These procedures should not be used when IFR conditions are expected in a subsequent portion of a flight. If, however, following the use of either of these procedures, subsequent IFR operation becomes necessary, a new IFR flight plan must be filed and an ATC clearance received before encountering IFR conditions.

It is drawn to the attention of pilots that under conditions requiring the filing of a flight plan for VFR flight, the phraseology in (b) must be used as that in (a) cancels the existing flight plan and the flight will continue operation with no flight plan.

FLIGHT NOTIFICATIONS

Requirements: Flight notifications are required under the following conditions:

- (a) flights wholly or partly within the sparsely settled areas (except IFR flights within controlled airspace).
- (b) flights normally requiring a flight plan but due to inadequate communications facilities would be unable to file a flight plan, or submit an arrival report within the prescribed time.

Filing Procedures: Flight notifications may be submitted to:

- (a) an air traffic control unit (as for flight plans).
- (b) a responsible person if communications facilities are inadequate to permit filing with ATC.

NOTE: Where the flight is to a military aerodrome, the Flight Notification must be filed with an ATC unit.

Arrival Reports: Arrival reports for flight notifications filed with ATC units must be submitted within 24 hours of the time the pilot indicates on the flight notification that an arrival will be filed. In the case of a flight notification filed with a responsible individual, the onus remains with the persons involved to mutually determine the flight following action desired.

AVOIDANCE OF SPECIFIED AIRSPACE

Under certain conditions it is considered necessary to limit flying in specified Canadian airspace.

Information concerning such airspace and the nature of the limitations imposed may be found in the following documents and directives:

- (a) Air Navigation Orders, Series V,
No. 9 - Prohibited and Restricted Airspace Order.
No. 10 - Flight Restrictions, National, Provincial and Municipal Parks Order.
- (b) Designated Airspace Handbook
Section 9 - Danger, Restricted and Military Flying Areas.
- (c) Notice to Airmen - temporary restrictions to flight are normally covered by
NOTAM action, e.g. airspace reservations, etc.
- (d) Information Circular entitled "General"
Avoidance by Aircraft - Dominion Radio Astrophysical
Observatory - Penticton, B.C.
Conservation laws.

In general, flight may be permitted subject to prior approval within a "restricted area"; and is undertaken at the pilot's discretion within a "danger area". This applies to both IFR and VFR aircraft.

MILITARY FLYING AREAS (MFA)

Pilots undertaking flight within the high level structure should take into account published Military Flying Areas when planning their route of flight.

Military Flying Areas are reserved for the use of military training and testing exercises and civil aircraft are not permitted to operate within these areas. When operational requirements permit, the Military may release specified portions of a MFA to ATC in order to accommodate transiting civil aircraft. Flights planning to traverse MFA's should ensure that sufficient fuel is carried to circumnavigate in the event that military activity precludes clearance through such areas.

MFAs are indicated on Canadian Radio Navigation High Level Charts as well as being listed in the Designated Airspace Handbook.

MILITARY ACTIVITY AREAS (MAA)

Occasionally, heavy military flying is carried out within pre-determined blocks of uncontrolled airspace. These are termed "military activity areas". Pilots of aircraft, especially if operating under instrument weather conditions, are advised to remain clear of MAAs. Notification of proposed military activity is accomplished by means of a Class I NOTAM which is published at least 24 hours in advance of the exercise.

AIRSPACE RESERVATIONS (ASPRV)

An airspace reservation is a block of controlled airspace reserved for the sole use of an agency during a specified time.

Although ATC will not clear an unauthorized flight into an active ASPRV, pilots, in planning routes and altitudes, should take into account any known airspace reservations that may have an impact on their proposed itinerary. Class I NOTAM are issued for all ASPRV activity except for that of a purely local nature.

Standard separation is provided by ATC between IFR traffic and reserved airspace.

EQUIPMENT SUFFIXES

When filing a flight plan for IFR or controlled VFR flight, the pilot of an aircraft equipped with a transponder, DME equipment, or both, shall indicate equipment capability by adding a suffix to the aircraft type as follows:

- /X - Transponder with no code capability
- /T - Transponder with 64 code capability
- /U - Transponder with 4096 code capability
- /D - DME
- /L - DME and transponder with no code capability
- /B - DME and transponder with 64 code capability
- /A - DME and transponder with 4096 code capability
- /M - TACAN, but no VOR, and transponder with no code capability
- /N - TACAN, but no VOR, and transponder with 64 code capability
- /P - TACAN, but no VOR, and transponder with 4096 code capability
- /W - Area Navigation capability
- /C - Area Navigation and transponder with no code capability
- /S - Area Navigation and transponder with 64 code capability
- /F - Area Navigation and transponder with 4096 code capability

Examples: Written - F27/T, DC8/A
 Spoken - F TWENTY-SEVEN SLANT TANGO
 DC EIGHT SLANT ALFA

ICAO FLIGHT PLAN FORM

Flight plans for international flights originating in, or entering Canada shall be filed in the ICAO format, as specified in ICAO Doc. 4444-RAC/501, except that "estimated times at FIR boundaries" (in Item 13 of the ICAO form) need not be included for operations within Canadian Airspace.

Flights between Canada and the United States are not classed as "international flights" with respect to flight plans.

DEPARTURE PROCEDURES

GENERAL

Pilots shall maintain a listening watch on the appropriate tower frequency while under control of the tower. Whenever possible, requests for radio checks and taxi instructions should be made on the appropriate ground control frequency. After establishing initial contact with the control tower, the pilot will be advised of any frequency changes required.

After communication has been established with the tower, the terms "THIS IS", "OVER", and other similar terms may be omitted, provided such omission does not lead to misunderstanding.

Radio Checks

Radio checks should be requested on the ground control frequency. An indication of readability will be given using the following scale except for pre-flight radio checks the phrase "RADIO CHECKS" may be used to indicate a readability of 4 or 5.

1. Bad
2. Poor
3. Fair
4. Good
5. Excellent

Example: Pilot: WINNIPEG GROUND, THIS IS JULIETT VICTOR HOTEL, RADIO CHECK, ONE TWO ONE DECIMAL NINE.

Ground

Control: JVH THIS IS WINNIPEG GROUND, RADIO CHECKS or READ YOU 4.

Requests for Push-back

Since controllers may not be in a position to see all obstructions which an aircraft may encounter during push-back, clearance for this manoeuvre will not be issued by the tower. Pilots requesting push-back will be advised to "Push-back at your discretion" and will be given traffic information to the extent possible. Pilots are cautioned that it is their responsibility to ensure that push-back may be accomplished in safety, prior to initiating aircraft movement.

Taxi Clearance

Taxi clearance should be requested on the ground control frequency. If no flight plan has been filed, the pilot should advise the tower as to the nature of the flight, such as "local VFR" or "proceeding VFR to (destination)".

Pilots of aircraft equipped with two-way radio are reminded that if cleared to taxi without restriction to the runway in use, no further clearance is required to cross any runway enroute.

Upon receipt of a normal taxi clearance, a pilot is expected to proceed to, but not onto, the runway he is to use for take-off. If, for any reason, the ground or airport controller requires that a pilot request a further clearance before crossing or entering any of the runways enroute to this taxi clearance limit, this requirement will be reflected in the taxi clearance.

Example: Pilot: WINNIPEG GROUND, JVH AT HANGAR NO. 3,
REQUEST TAXI CLEARANCE, OVER.

Ground

Control: JVH WINNIPEG GROUND, RUNWAY (number), WIND (in degrees magnetic and miles per hour), TIME (in GMT, four-figure group), ALTIMETER (four-figure group giving the altimeter in inches), CLEARED TO TAXI (runway or other specific point, route).

NOTE: Time and Altimeter will not normally be issued if the information was issued in preflight radio check. Runway, Wind and Altimeter will not normally be issued if the information is included in current ATIS broadcast and pilot acknowledges receipt of that message.

Common ATC Phraseologies:

ADVISE WHEN READY.

CONTINUE or CONTINUE TAXIING.

HOLD or HOLD ON (runway number, taxi-way) or HOLD

(direction) OF (runway number, taxi-way) or

HOLD SHORT OF (runway number, taxi-way) or

TAXI ON (runway number, taxi-way).

TAXI TO POSITION AND HOLD.

TURN NOW or TURN LEFT or TURN RIGHT.

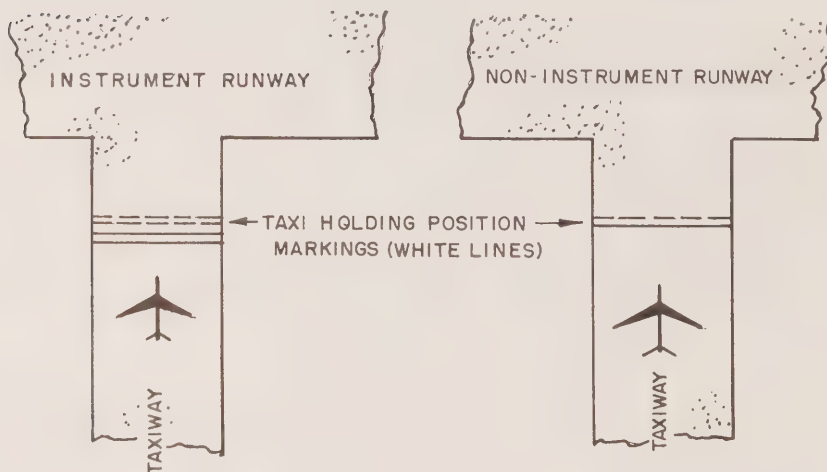
To avoid causing "clutter" on controllers' radar displays, transponders should be adjusted to "standby" while taxiing, and not be switched to "on" (or "normal") until immediately before take-off. If a transponder reply is required by ATC immediately after take-off, the appropriate instructions will be included in the IFR clearance.

Example: SQUAWK ALFA THREE, CODE TWO ZERO, JUST BEFORE TAKE-OFF.

Taxi Holding Position

A clearance must be obtained before leaving a taxi holding position, or where holding positions have not been established, before proceeding closer than 150 feet from the edge of the runway in use. At airports where it is not possible to comply with this provision, taxiing aircraft are to remain at a sufficient distance from the active runway to ensure that no hazard to arriving or departing aircraft is created.

Taxi holding position markings are as follows:



Take-off Clearance

When ready for take-off the pilot shall request take-off clearance. Upon receipt of take-off clearance, the pilot shall take-off without delay, or inform ATC if unable.

Example: Pilot: WINNIPEG TOWER J VH READY FOR TAKE-OFF.

Tower: J VH WINNIPEG TOWER (any special information - hazards, obstructions, etc.) CLEARED FOR TAKE-OFF (control instructions - turn after take-off, wind information if required, etc.).

When an aircraft is cleared for take-off, the clearance is based on the premise that the full length of the runway will be available. However, a pilot may request or the controller may suggest take-off using only part of a runway. A pilot's request will be approved provided noise abatement procedures, traffic and other conditions permit. If suggested by the controller, the available length of the runway will be stated. It is the pilot's responsibility to ensure that the portion of the runway to be used will be adequate for the take-off run.

To expedite movement of airport traffic and achieve spacing between arriving and departing aircraft, take-off clearance may include the word "immediate". In such cases "immediate" is used for purpose of air traffic separation. On acceptance of the clearance, the aircraft shall taxi onto the runway and take-off in one continuous movement. If in the pilot's opinion compliance would adversely affect his operation he should refuse the clearance. Pilots planning a static take-off (i.e., a full stop in "position" on the runway) or a delay in take-off shall indicate this when requesting take-off clearance.

If an intersection take-off has not been initiated and back-tracking on the live runway is required, the pilot should indicate his intentions before entering the runway.

A controller may not issue a clearance or approve a request for take-off which would result in a deviation from established noise abatement procedures.

VFR FLIGHT

Procedures for Aircraft Without Radio

At all times, the pilot should be alert for visual signals which may be given by the tower.

Pilots are required to obtain clearance either by prearrangement or by visual signals before crossing or entering runways, taxi-ways or any other portion of the airport used for landings and take-offs.

Clearances must be obtained before proceeding any closer than 150 feet from the edge of the runway in use.

A pilot must obtain clearance to taxi back along the runway in use after landing. When an aircraft has been stopped by a red light a further clearance must be received before proceeding.

Take-off clearance by day - When ready for take-off, the aircraft should be taxied to a position at least 150 feet from the edge of the runway in use and positioned so as to permit the pilot to observe a visual signal from the tower. When an area other than a runway is being used for take-off, the pilot may attract the attention of the controller by turning the aircraft toward the tower.

By night - During the hours of darkness, a pilot wishing to attract the attention of the airport controller, should turn on a landing light with the aircraft positioned so that appropriate signals may be received from the tower.

Acknowledgement of Visual Signals - A pilot shall, where practicable, acknowledge all clearances and instructions received by visual signals as follows:

- (a) On the airport; full movement of rudder or ailerons, whichever can be most readily seen from the tower, (such movement should be repeated at least 3 times in succession) or taxiing the aircraft in the authorized direction.
- (b) At night; by a single flash of a landing light.

Procedures for Aircraft Equipped with Receiver Only

It is the responsibility of the pilot to advise the airport controller concerned, preferably by filing a flight plan, that his aircraft is equipped with a receiver, otherwise he will receive instructions by visual signals.

The procedures which apply to aircraft without radio also apply to aircraft equipped with receiver only, except that an airport controller may request the pilot to acknowledge a transmission in a specific manner. After the initial acknowledgement no further acknowledgement, other than compliance with clearances and instructions, is necessary, unless otherwise requested by the controller.

Visual Signals

Authorized visual signals used by the tower and their meaning are as follows:

To aircraft on the ground:

1. A SERIES OF GREEN FLASHES - Cleared to taxi.
2. STEADY GREEN LIGHT - Cleared for take-off.
3. SERIES OF RED FLASHES - Taxi clear of landing area in use.
4. STEADY RED LIGHT - Stop.
5. FLASHING WHITE LIGHT - Return to starting point on the airport.

To all aircraft:

When the rotating beacon is lighted by day, this shall indicate that the weather within the control zone is below VFR limits.

Release from Tower Frequency

Pilots may request clearance from tower frequency or to another agency or service as appropriate.

Example: Pilot: WINNIPEG TOWER, JVH REQUEST CLEARANCE
(from tower frequency, to company, to a specific frequency).

Tower: JVH, WINNIPEG TOWER, CLEARED (from tower frequency, to company, to a specific frequency)
NOW or AT (time) or OVER (location).

VFR flights will not be released from tower frequency while operating within the control zone.

IFR FLIGHT

Initial Contact

On initial contact with ground control, the pilot of an IFR aircraft should state the intended altitude of the flight.

IFR Clearance

An IFR clearance will normally be given after a flight has received taxi clearance. However, due to high fuel consumption during ground running time, some jet pilots may wish to obtain their IFR and taxi clearance prior to starting engines. Pilots using this procedure shall call the tower using a phrase such as "READY TO START NOW" or "READY TO START AT (time)". Normally such time should not be greater than 5 minutes prior to engine start. If a delay is anticipated, the pilot will be advised to contact "clearance delivery" on a specific frequency for his IFR clearance.

Example: Tower: JVH WINNIPEG GROUND/CLEARANCE DELIVERY
IFR CLEARANCE (controller will wait for the pilot to indicate that he is ready to copy)
ATC CLEARS, -----.

At certain airports an IFR departure clearance may include a coded departure routing known as a STANDARD INSTRUMENT DEPARTURE (SID). SIDs have been established at Montreal, Toronto, Ottawa and Vancouver International Airports and are published as a supplement to the Radio Navigation Charts. It is expected that SIDs will be instituted at other high density airports in the future.

Pilots of air carrier or military aircraft operating at airports for which SIDs have been published will be issued SID clearances by ATC whenever considered appropriate. Pilots of other aircraft will not be issued SID clearances unless requested by the pilot. No pilot is required to accept an abbreviated SID clearance. If any doubt exists as to the meaning of such clearance, the pilot should request a detailed clearance.

The clearance received by a pilot must be "read-back" to the controller except that the traffic information inserted at the end of the clearance may be acknowledged by the phrase "TRAFFIC RECEIVED". Read-back of the SID portion of a clearance should consist of repeating the name of the SID that has been received rather than repeating the detailed SID route as published. If the clearance "read-back" is incorrect, the pilot will be so advised and the correct data retransmitted to the pilot. These corrections must also be repeated by the pilot to ensure that they have been correctly received.

A controller may not issue a clearance or approve a request for take-off from a pilot which would result in a deviation from established noise abatement procedures.

A departing IFR aircraft, at radar equipped locations, is radar identified as soon as practicable and vectored so as to avoid conflicting traffic to allow climb to cruising altitude with the least possible delay.

At the pilot's request, ATC may issue a clearance to a departing IFR flight authorizing a portion of the flight to be made in accordance with VFR. The clearance will specify a time, altitude or location to which VFR must be maintained, and will include alternate instructions in the event VFR flight becomes impracticable.

Release from Tower Frequency

IFR Flights - Control Zones within Terminal Control Areas:

After take-off and when clear of conflicting airport traffic, an IFR flight will be cleared by the airport controller to contact a specific control unit on a specified frequency at a specified time or location. At certain locations flights will be advised to change to a specific departure frequency prior to take-off.

IFR Flights - Control Zones outside Terminal Control Areas:

When requesting release from tower frequency, the pilot shall advise the tower of the agency or the frequency to which he will change if such information has not been specified in the ATC clearance prior to departure.

ENROUTE PROCEDURES

VFR FLIGHT

Position Reports

VFR flights are not required to file position reports; however, they should file these reports whenever possible for their own protection. In order to minimize frequency congestion on direct centre pilot communications (DCPC) frequencies, pilots of VFR aircraft are urged to make routine position reports to the nearest DOT aeradio station. Such reports are recorded by the radio operator and, although not normally forwarded to ATC are immediately available in the event of search and rescue action. VFR position reports should be given in the following general format:

"OTTAWA RADIO, THIS IS INDIA GOLF BRAVO, VFR FLIGHT
PLAN, OVER OTTAWA AT ONE ONE FIVE EIGHT, ESTIMATING
KILLALOE ONE TWO THREE FOUR, OVER".

Controlled VFR Flights (CVFR)

Regulations governing flights within the Block Airspace are contained in Air Navigation Order, Series V, No. 15 entitled the "Block Airspace Order".

These regulations, developed in the interest of increased air safety, allow VFR pilots with special qualifications to be provided with IFR separation by Air Traffic Control. Controlled VFR flights must be conducted in accordance with procedures designed for use by IFR flights, except that when IFR weather conditions are encountered the pilot of a Controlled VFR flight must avoid such weather conditions.

It may not be possible for Air Traffic Control to issue a clearance for a controlled VFR flight to operate at the requested altitude at the time a pilot desires it. This may be due to the density of air traffic within the control area at the time which prevents the acceptance of any additional aircraft in the Block Airspace. In such cases, a later request, or a request for a different altitude, may be approved.

The Block Airspace consists of that airspace on airways extending from 9,500 ASL east of 114° W and 12,500 ASL west of 114° W to Flight Level 230. Since the 114th west meridian divides Blue Airway No. 14 and portions of Amber Airway No. 2, the Block Airspace on all of Blue 14 and that portion of Amber 2 between Third Lake Intersection and fifteen miles northwest of Edmonton has a base of 9,500 ASL. In order that the characteristics of the controlled airspace associated with the Victor Airway 301 section between Calgary and Edmonton and the alternate Victor 301 West may be compatible, the lower limit of the "Block Airspace" on Victor 301 West has been designated as 9,500 ASL.

ATC clearances for Controlled VFR flight will not normally be issued prior to take-off, but rather upon receipt of a position report filed by the pilot upon reaching the last 1,000 foot altitude below the base of the Block Airspace (8,500 or 11,500) with a request for a clearance. The clearance shall be read back by the pilot to ensure accuracy. This procedure is intended to ensure that the radio equipment is operating and to remind pilots that during climb to the Block Airspace, ATC separation is not being provided, and they must maintain a vigilant watch for other traffic. The ATC clearance will contain the phrase:

MAINTAIN (altitude) VFR.

Pilots planning Controlled VFR flight within the Block Airspace are warned not to expect the provision of this service on those airways which are controlled by U.S. ARTC Centres.

IFR FLIGHT

Position Reports

Pilots of IFR and controlled VFR flights are required to make position reports over compulsory reporting points listed in the "Designated Airspace Handbook" and in addition, over reporting points specified by an ATC unit.

Enroute IFR and controlled VFR flights should establish direct controller-pilot communications (DCPC) wherever possible. Peripheral (PAL) transmitter-receiver sites have been established at a number of locations to extend the communication coverage. Whenever DCPC communication cannot be established, pilots should make position reports to ATC through the nearest communications agency along the route of flight.

IFR flights being provided with radar service may be authorized by ATC to discontinue position reports over compulsory reporting points, while in an area of radar coverage. Pilots will be informed when to resume normal position reporting.

In order that flight information and alerting service may be provided to all IFR flights outside controlled airspace, pilots should make position reports over all navigation aids along the route of flight to the nearest station having air/ground communications capability.

Altitude Reports

Pilots shall report reaching the altitude to which the flight has been initially cleared; and when climbing or descending enroute, shall report leaving a previously assigned altitude and when reaching the assigned altitude. ATC expects that a climb or descent once commenced should be without interruption; however, if this is not possible ATC should be advised.

On initial contact with ATC or when changing from one ATC frequency to another, pilots are requested to state the assigned cruising altitude and when applicable, the altitude through which the aircraft is climbing or descending.

Example: EDMONTON CENTRE AIR CANADA 801 EIGHT THOUSAND CLIMBING TO
MAINTAIN FLIGHT LEVEL 350.

VFR Climb and Descent

Air traffic control will not clear aircraft in IFR flight to climb or descend in accordance with the visual flight rules unless the pilot makes a specific request to be permitted to do so. VFR climb or descent will not be authorized for flights within the Block Airspace or within controlled airspace between FL 230 and FL 450.

Pilots are reminded however, that in making such requests they are accepting responsibility for ensuring that adequate separation between their own and all other aircraft will be maintained during the climb or descent since Air Traffic Control cannot guarantee separation under these circumstances.

Cruising Altitudes

Use of Flight Level 180 - Flight Level 180 may be used only when assigned by ATC.

Since less than 1000 feet vertical separation may exist between an aircraft flying at 17,000 feet ASL on an altimeter setting and an aircraft flying at flight level 180 or higher, when the altimeter setting is below 29.92 inches, the lowest usable flight level will be assigned or approved in accordance with the following table.

<u>Altimeter Setting</u>	<u>Lowest Usable Flight Level</u>
29.92 or higher	180
29.91 to 28.92	190
28.91 to 27.92	200
27.91 or lower	210

However, flight level 180 may be assigned when the altimeter setting is below 29.92 but not below 28.92, provided that when vertical separation is being provided between the aircraft at flight level 180 and an aircraft operating on an altimeter setting, the latter aircraft shall not be assigned, or given approval to operate at, an altitude above 16,000 ASL.

On pilot's request, "at least 1000 feet on top" flight may be authorized by ATC. The altitude being maintained must be at least 1000 feet above all cloud, haze, smoke or other formations and the flight visibility must be at least 3 miles. ATC may not authorize such flights in the Block Airspace or the controlled airspace between FL 230 and FL 450. It is the pilot's responsibility to maintain adequate separation from all other aircraft. During enroute flight the altitude being maintained must be appropriate for the direction of flight.

Clearance Limit

The clearance limit as specified in an ATC clearance is the point to which an aircraft is cleared. Further clearance is delivered to a flight prior to arrival at the clearance limit,

however, occasions may arise when this may not be possible. In the event further clearance is not received the pilot is expected to hold at the clearance limit, maintaining the last assigned altitude, and to request further clearance. He is not to proceed beyond this clearance limit, as the altitude maintained may be occupied beyond this point. For example, if a flight approaches a fix on a track of 90 degrees, holding should be accomplished at the fix on an inbound track of 90 degrees.

Responsibility rests with the pilot to determine whether or not a clearance received by him can be complied with in the event of a communication failure. Under such circumstances, a clearance may be refused but such refusal should specify acceptable alternatives.

AIRSPACE ABOVE FLIGHT LEVEL 230

Canadian controlled airspace within the high level structure is divided into three separate areas (a) Southern Control Area - airspace above flight level 230 (b) Northern Control Area - airspace above flight level 230, and (c) Arctic Control Area - airspace flight level 290 and above (see Special Procedures section). The lateral dimensions of these areas are defined in the "Designated Airspace Handbook".

Pilots are reminded of the following rules which apply in the Northern, Southern and Arctic Control Areas:

- (a) All flights operating at and below FL 450 must be conducted in accordance with the Instrument Flight Rules and, therefore, require an ATC clearance.
- (b) "1000-on-top" flight is not permitted at or below FL 450.
- (c) Altimeters must be set to Standard Pressure (29.92 inches of mercury or 1013.2 mbs.).

Mach Number - Clearances

Clearances to turbo-jet aircraft equipped with a Mach meter system may include an appropriate Mach number. The Mach number approved by ATC shall be adhered to within a tolerance of plus or minus zero decimal zero one (0.01) and ATC approval obtained by the pilot before making any change. If an immediate temporary change in Mach number is necessary (e.g. due to turbulence), ATC must be notified as soon as possible of such change. When a Mach number has been included in a clearance, the flight concerned should transmit its current Mach number with each position report.

NON-RADAR LATERAL SEPARATION OF IFR FLIGHTS

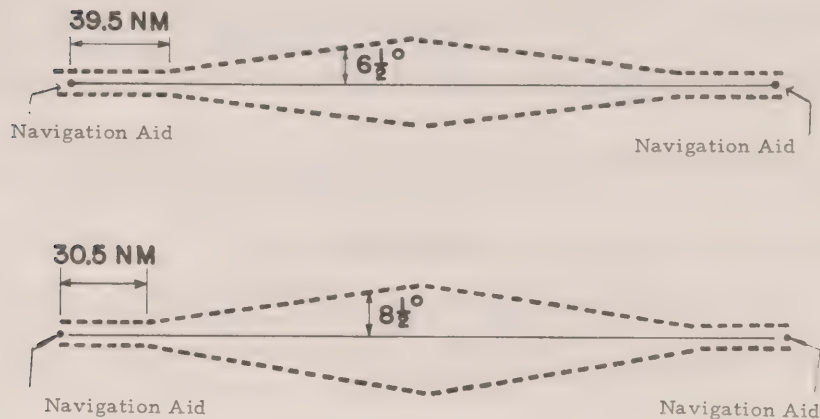
The following information is intended to acquaint pilots with basic non-radar lateral separation standards applied by air traffic control, and thereby facilitate flight planning and improved understanding of ATC techniques.

Lateral separation of IFR flights operating within controlled airspace is determined on the basis of protection by ATC of specified amounts of airspace on each side of an approved track. The dimensions of protected airspace for a particular track take into account the accuracy of available ground based navigation aids which provide track guidance, accuracy of airborne receiver and indicator equipment, a pilotage tolerance each side of indicated track, and a small allowance for sudden wind shifts and aircraft size. Separation is considered to exist provided the airspaces protected for each aircraft do not overlap.

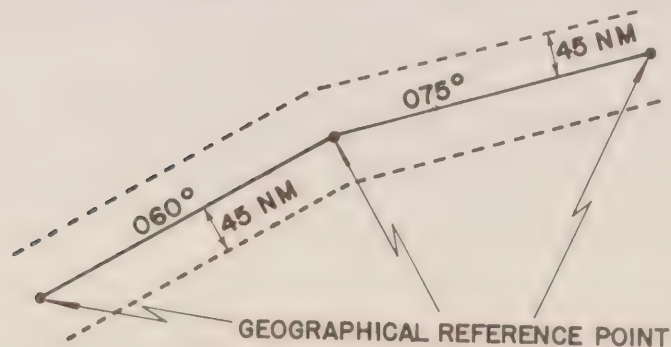
Because of the quality of navigation signal coverage and communications facilities available, pilots are encouraged to plan their flights along designated airways whenever practicable.

A high-level airway is described in the Designated Airspace Handbook in terms of "A prescribed track between specified radio aids to navigation" and therefore has no defined lateral dimensions. ATC will, however, protect the following airspace along all approved tracks above FL 230:

- (a) High-Level Airways - Airspace is protected to a width of 4.5 NM each side of the designated track, outward from the navigation aid to point of interception with lines originating at the navigation aid and diverging $6\frac{1}{2}^\circ$ (used for VOR and TACAN radials) or $8\frac{1}{2}^\circ$ (used for tracks determined from NDB's and LF/MF range courses) each side of track. Beyond this point, increased airspace is protected within lines which diverge at $6\frac{1}{2}^\circ$ ($8\frac{1}{2}^\circ$) until intercepting similar lines extending from the adjacent navigation aid. (See note to sub-paragraph (a) of Controlled Airspace at and below FL 230.)



- (b) Off-Airway Tracks Within Signal Coverage Range of Ground Based Navigation Aids - Airspace is protected to the same width as for high-level airways, provided aircraft are operating between navigation aids which normally afford continuous track guidance.
- (c) Off-Airway Tracks Beyond Signal Coverage Range of Ground Based Aids - Airspace is protected to a width of 45 NM each side of that portion of the track which is beyond normal signal coverage range of navigation aids used for track guidance.



Controlled Airspace At and Below FL 230

Low-altitude airways are described in the Designated Airspace Handbook in terms of lateral as well as vertical and longitudinal dimensions. ATC will protect the following airspace along approved tracks at and below FL 230:

- (a) Low-Altitude Airways - Airspace is protected to the full width of the airway.

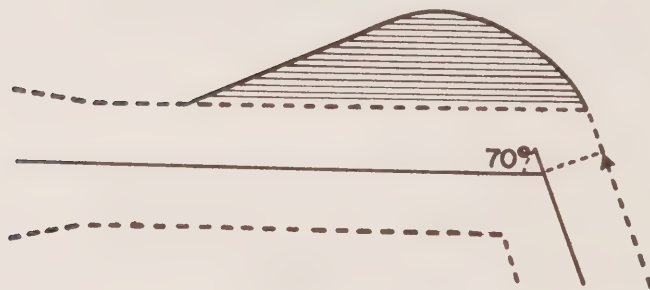
NOTE: When an aircraft is operating with right side separation on an LF/MF range course, an additional 4.5 NM of airspace will be protected between the right boundary of the airway on which it is operating and the boundary of airspace protected for any aircraft which may be operating in adjacent controlled airspace.

- (b) Off-Airway Tracks Within Normal Signal Coverage Range of Ground Based Navigation Aids - Airspace is protected to a width of 4.5 NM each side of track to a point 39.5 NM beyond a navigation aid. Beyond this point, airspace is protected within lines extending from the navigation aid and diverging at $6\frac{1}{2}^\circ$ each side of track until interception of similar lines from an adjacent navigation aid.

- (c) Off-Airway Tracks Beyond Signal Coverage Range of Ground Based Navigation Aids - Airspace is protected to a width of 45NM each side of that portion of track which is beyond normal signal coverage range of navigation aids used for track guidance.

Change of Direction Within Controlled Airspace At and Above FL 180

Additional airspace will be protected at and above FL 180 on the manoeuvring side of tracks which change direction by more than 15° overhead navigation aids or intersections. It is expected that pilots of aircraft operating below FL 180 will make turns so as to remain within the normal width of airways or airspace protected for off-airway tracks.



Since the lateral separation standards applied by air traffic control are dependent upon the probable accuracy of navigation along each track, it will be the pilot's responsibility to remain within the boundaries of protected airspace for an assigned track in order to be assured of lateral separation from other air traffic.

Normally, the airspace to be protected for an approved track will be predicated on the premise that the changeover from one navigation reference to another will take place approximately midway between facilities. Where this is not possible due to a difference in the signal coverage provided by two adjacent navigation aids, the equal signal point on an airway segment will be shown.

In order to remain clear of Restricted Areas, Danger Areas, or active areas of the Churchill Rocket Range, pilots should flight plan so that the airspace-to-be-protected for the intended track does not overlap the area of concern.

HOLDING PROCEDURES

IFR FLIGHT

General

Standardization of aircraft entry and holding manoeuvres is essential for the efficient and economical use of airspace in the control of air traffic.

A holding clearance issued by ATC will include at least the following information:

- (a) Clearance to the holding fix.
- (b) Direction to hold from the holding fix.
- (c) On specified, radial, course, inbound track.
- (d) If DME is used, the DME distances at which the fix end and outbound end turns are to be commenced. (e.g., "Hold between (number of miles) and (number of miles).").
- (e) Time to expect further clearance, time to expect approach clearance, or time to leave the fix in the event of communications failure.

During entry and holding, all turns are to be made so as to achieve an average bank angle of at least 25° or a rate of 3° per second, whichever requires the lesser bank.

Unless the clearance issued by ATC contains instructions to the contrary, all turns after initial entry into the holding pattern shall be made to the right.

Holding patterns within Canadian Airspace are not published. Occasionally, a pilot may reach a clearance limit before obtaining further clearance from ATC. In this event, the pilot is expected to hold in a standard pattern on his inbound track to such clearance limit and request further clearance. He is not to proceed beyond the clearance limit as the altitude maintained may be occupied beyond this point.

Example 1:

A westbound flight on Green 1, cleared to Casselman (NX) NDB reaches Casselman before obtaining further clearance. The pilot is expected to hold at NX on an inbound track of 280° until receiving further clearance.

Example 2:

The published missed approach procedure for an ILS RWY 24 approach at Halifax is:
"CLIMB to 2100 feet on track of 238° to GOLF NDB."

A pilot missing an ILS approach to RWY 24, and not in receipt of further clearance is expected to proceed directly to the GOLF NDB, make a right turn and hold at the GOLF beacon on an inbound track of 238° , one minute pattern at 2100 feet until obtaining further clearance.

If for any reason a pilot is unable to conform to these procedures, he should advise ATC as early as possible.

Procedures covering communications failure are contained in ANO, Series V, No. 5.

Entry Procedures

The entry into a holding pattern shall be made according to the aircraft's heading in relation to the three sectors shown in Figure 1, recognizing a zone of flexibility of 5° on either side of the sector boundaries. For holding on VOR intersections or VOR-DME/TACAN fixes, entries will be limited to the radials or DME arcs forming the fix, as appropriate.

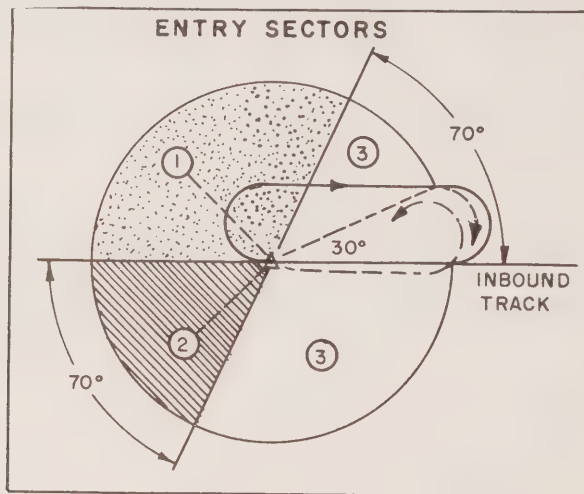


FIGURE 1

Sector 1 Procedures (Parallel entry) -

- (a) Upon reaching the fix, turn onto an outbound heading for the appropriate period of time. (See item entitled Timing, below figure 3 following)
- (b) Turn left to intercept the inbound track.
- (c) On second arrival over the fix, turn right and follow the holding pattern.

Sector 2 Procedure (Offset entry) -

- (a) Upon reaching the fix, turn to a heading which will make good a track having an angle of 30° or less from the inbound track on the holding side.
- (b) Continue for the appropriate period of time, then turn right to intercept the inbound track and follow the holding pattern.

Sector 3 Procedure (Direct entry) - Upon reaching the fix, turn right and follow the holding pattern.

The still air time for flying the outbound entry heading should not exceed one minute if at or below 14,000 feet ASL, or 1½ minutes if above 14,000 feet ASL. Entry timing is to begin over or abeam the fix.

Standard Holding Pattern

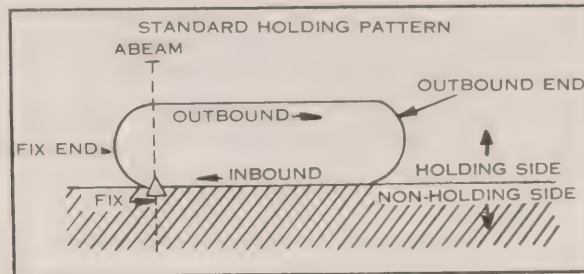


FIGURE 2

A standard holding pattern is depicted above and described below in terms of still air conditions.

- (a) Having entered the holding pattern, on the second and subsequent arrivals over the fix, execute a right turn to fly an outbound track which will most appropriately position the aircraft for the turn onto the inbound track.
- (b) Continue outbound for one minute if at or below 14,000 feet ASL or for 1½ minutes if above 14,000 feet ASL.

NOTE: Distance will be specified by ATC instead of time where a DME fix is to be used for holding.

- (c) Turn right so as to realign the aircraft on the inbound track.

When holding at a VOR, pilots should begin the turn to the outbound leg at the time of the complete reversal of the TO-FROM indicator.

Non-Standard Holding Pattern

A non-standard pattern requires that:

- (a) Fix end and outbound end turns be made to the left, and/or
- (b) Time along the outbound track be other than the 1-minute or 1½-minute leg appropriate for altitude being flown.

Entry procedures to a non-standard pattern requiring left turns are oriented in relation to the 70° line on the holding side, just as in the standard pattern. Refer to Figure 3.

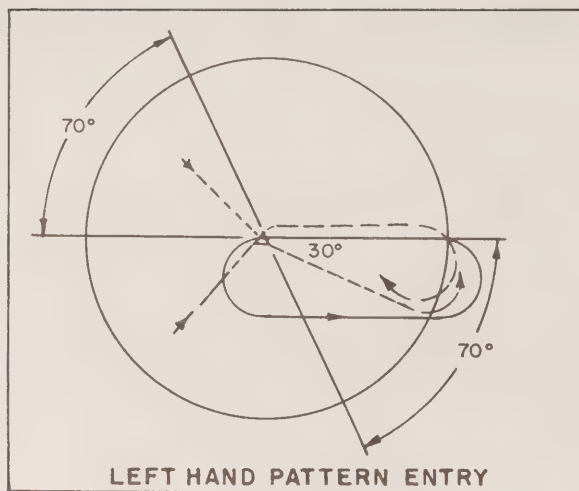


FIGURE 3

Timing

The still air time for flying the outbound leg of a holding pattern should not exceed one minute if at or below 14,000 feet, or $1\frac{1}{2}$ minutes if above 14,000 feet ASL. However, due allowance should be made in both heading and timing to compensate for the effects of known wind, except when turning.

Entry timing should begin when over or abeam the fix. The initial outbound heading should be flown for 1 or $1\frac{1}{2}$ minutes (appropriate to altitude). If it is known that a headwind will exist when outbound, timing may be increased by not more than 30 seconds when holding above 130K IAS, or by not more than one minute when holding at 130K IAS or below.

After initial circuit of the pattern, timing should begin from abeam the fix or on attaining the outbound heading, whichever occurs later. Outbound times should be increased or decreased, in recognition of wind conditions, to effect 1 minute or $1\frac{1}{2}$ minutes (appropriate to altitude) inbound to the fix.

When ATC clearance is received specifying the time to depart the holding pattern, the pilot should adjust his flight pattern within the limits of the established holding pattern in order to leave the fix as close as possible to the time specified.

Speed Limitations

Holding patterns must be entered and flown at or below the following airspeeds:

- | | | |
|-----|--|----------|
| (a) | propeller-driven aircraft | 175K IAS |
| (b) | turbo-jet aircraft | |
| | (i) Up to 6000 feet, inclusive | 200K IAS |
| | (ii) Above 6000 feet to 14,000 feet, inclusive | 210K IAS |
| | (iii) Above 14,000 feet | 230K IAS |
| (c) | turbo-prop aircraft may operate at normal climb IAS while climbing in a holding pattern and turbo-jet aircraft may operate at 310K IAS or less, while climbing in a holding pattern. | |

Pilots are to advise ATC immediately if airspeeds in excess of those specified above become necessary for any reason, including turbulence, or if unable to accomplish any part of the holding procedure. After such higher speed is no longer necessary, the aircraft should be operated at or below the specified airspeeds, and ATC notified.

NOTE: Airspace protection for turbulent air holding is based on a maximum of 280 K IAS or Mach .8, whichever is lower. Considerable impact on the flow of air traffic may result when aircraft hold at speeds which are higher than those specified above.

After departing a holding fix, pilots should resume normal speed subject to other requirements, such as speed limitations in the vicinity of controlled airports, specific ATC requests, etc.

DME Procedures

DME holding is subject to the same entry and holding procedures previously described except that distances, in nautical miles are used in lieu of time values.

In describing the direction from the fix on which to hold and the limits of a DME holding pattern, an ATC clearance will specify the DME distance from the navigation aid at which the inbound and outbound legs are to be terminated. The end of each leg is determined by the DME indication.

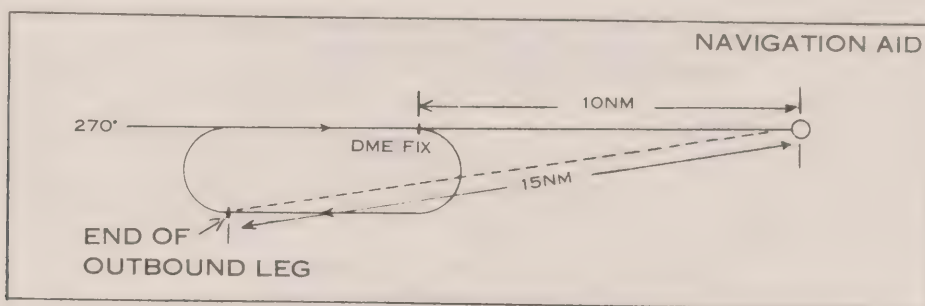


FIGURE 4

Example - An aircraft cleared to the 270 RADIAL 10 MILE DME FIX, to HOLD BETWEEN 10 AND 15 MILES, will hold inbound on the 270° radial, commence turn to the outbound leg when the DME indicates 10 NM and commence turn to inbound leg when the DME indicates 15 NM.

Initial Contact

Prior to entering a positive control zone (See ANO V, No. 21), the pilot shall call the tower on the appropriate frequency, giving his identification, position (distance in miles and direction from the airport or by reference to a geographical fix), and request landing instructions.

It is strongly recommended that pilots establish and maintain radio communications with the appropriate control tower prior to operating within any other control zone served by a control tower.

Initial Clearance

On initial contact with the tower, the airport controller will advise the pilot the runway to use, wind direction and speed, altimeter setting and any other pertinent information. Normally, the airport controller will clear the aircraft to the traffic circuit; however, under certain weather and/or conditions, the aircraft may be cleared to a specific location, or directly to base leg, or for a straight-in approach.

Example: Pilot: VICTORIA TOWER CESSNA ROMEO MIKE GOLF

NOTE: Pilots are requested to use the phonetic alphabet for aircraft identification on initial contact.

Tower: RMG, VICTORIA TOWER.

Pilot: VICTORIA TOWER RMG, OVER ACTIVE PASS,
REQUEST LANDING INSTRUCTIONS.

Tower: RMG, VICTORIA TOWER, RUNWAY (number), WIND,
(direction in degrees magnetic, speed in miles per hour),
ALTIMETER (four-figure group in inches), CLEARED TO
THE CIRCUIT or CLEARED TO LEFT BASE LEG or
CLEARED STRAIGHT-IN APPROACH, followed by other
pertinent instructions or information if deemed necessary.

Pilot: RMG.

Where a pilot has been monitoring current landing information from the tower or ATIS broadcast, he may request initial clearance as follows:

Pilot: VICTORIA TOWER, CESSNA ROMEO MIKE GOLF,
(aircraft position) CHECK LANDING INFORMATION (or)
HAVE RECEIVED INFORMATION (ATIS Code). REQUEST
CLEARANCE TO THE CIRCUIT (or other type of approach).

Entry to the circuit shall be made in such a manner so as to avoid "calling off" other aircraft, conforming as closely as possible to the altitude (normally 1000 feet above terrain), speed and size of the circuit being made by other traffic. Flights which are not in communication with the tower shall, at all times, be on the alert for visual signals.

Once established in the circuit as cleared, the pilot is to advise the tower accordingly.

Example: Pilot: VICTORIA TOWER, RMG, DOWNWIND

Tower: RMG, NUMBER (approach sequence number).
If not number one, the tower will give the type, position and
colour if significant, of aircraft to follow and other instructions
or information.

Pilot: RMG.

Common ATC Phraseologies:

FOLLOW (aircraft type) NOW ON BASE LEG.

EXTEND DOWNWIND.

WIDEN APPROACH.

In order to increase safety by reducing the possibility of confliction with departing traffic, aircraft approaching the active runway from the upwind side are to enter crosswind abeam a point approximately midway between each end of the runway, taking into account aircraft performance, wind and/or runway length.

NORDO and RONLY aircraft should approach the circuit from the upwind side, enter crosswind at circuit height and taking due account of other traffic, join the circuit on the downwind leg. Pilots are cautioned to remain clear of the approach and/or departure paths of the active runway when joining the circuit. (See diagram).

Landing Clearance

A pilot must obtain landing clearance prior to landing. Normally the airport controller will initiate landing clearance without having first received the request from the aircraft; however, should this not occur, the onus remains with the pilot to request such clearance in sufficient time to accommodate the operating characteristics of the aircraft being flown. NORDO and RONLY aircraft shall be considered as intending to land when they join and conform to the traffic circuit. Landing clearance will be given on final approach. If landing clearance is not received, the pilot shall, except in case of emergency, pull up and make another circuit.

Example: Pilot: VICTORIA TOWER RMG LANDING CLEARANCE

Tower: RMG VICTORIA TOWER CLEARED TO LAND. (If aircraft is equipped with retractable landing gear) CHECK GEAR DOWN.

Pilot: RMG.

NOTE: Pilots are cautioned that the phrase "check gear down" is used by air traffic controllers at the request of pilot organizations as a reminder only to a pilot that he should "check whether or not the landing gear is down and locked". It is not, under any circumstances, to be construed by pilots as meaning that the controller has observed and is confirming that the gear is actually down.

When an aircraft is on final approach and it appears that the runway may not be clear for landing, the pilot will be advised to "CONTINUE APPROACH, POSSIBLE PULL-UP". When a "pull-up" is necessary (before or after landing clearance has been issued) the pilot shall abandon his approach and make another circuit.

Example: PULL-UP AND GO AROUND, TRAFFIC STILL ON RUNWAY

Common ATC Phraseologies:

CAUTION, POSSIBLE TURBULENCE FROM LANDING (aircraft type and position).

MAKE LEFT/RIGHT 360.

MAKE FULL-STOP LANDING.

CONTACT TOWER/GROUND ON (frequency) AFTER LANDING/WHEN CLEAR OF RUNWAY/NOW.

Taxiing

After landing, aircraft shall clear the runway without delay by continuing forward to the nearest available taxi strip or turn-off point, unless otherwise instructed by air traffic control. When required, instructions for clearing the runway will be given as follows:

Example: Tower: IGB (instructions for clearing runway) CONTACT GROUND CONTROL
(specific frequency) NOW or AT (specific location).

Towers will normally provide the aircraft down time, only when requested by the pilot.

Normally, aircraft will not be changed to ground control until clear of the active runway.

When clear of the runway in use, taxi clearance will be given as follows:

Example: Tower: IGB CLEARED TO (ramp, gate or parking area) (any special instructions such as routing, traffic, cautionary or warning regarding construction or repair on the manoeuvring area.)

Speed Limitation at Controlled Airports

In order to reduce collision hazard in the vicinity of controlled airports it is considered advisable to operate aircraft at reduced airspeeds. When below 3,000 feet above ground and within 10 miles of the centre of a controlled airport, aircraft should be operated at an airspeed of 160 knots or less. For those aircraft which are unable to safely manoeuvre at this speed, it is recommended that they be operated at the minimum speed which permits safe control of the aircraft for the necessary flight manoeuvre.

Procedure for Aircraft Without Radio

At all times, the pilot should be on the alert for visual signals which may be given by the tower.

Traffic Circuit - The pilot shall approach the traffic circuit from the upwind side of the runway, enter crosswind at circuit height abeam a point approximately midway between each end of the runway and join the circuit on the downwind leg. While within the circuit the pilot shall conform to the speed and size of the circuit, maintaining such separation from aircraft ahead that a landing can be made without overtaking it. If it is necessary for a flight to cross the airport prior to entering crosswind, this shall be done well above circuit height and descent to circuit height should be made in the upwind area of the active runway.

Final Approach - Before turning on final approach, a pilot shall check for any aircraft on a straight-in approach.

Landing Clearance - Landing clearance will be given on final approach. If landing clearance is not received, the pilot shall, except in case of emergency, pull up and make another circuit. (Note - Landing clearance may be withheld by the tower when there are preceding aircraft which have not landed or if the runway is not clear).

Taxiing - No taxi clearance is required after landing, except to cross the runway in use, or to taxi back to a turn-off strip. When an aircraft's landing run carries it past the last available turn-off point, it shall proceed to the end of the runway and be taxied to one side, waiting there until clearance is received to taxi back to the nearest turn-off point.

Procedures for Aircraft Equipped with Receiver Only

It is the responsibility of the pilot to advise the airport controller concerned, preferably by filing a flight plan, that his aircraft is equipped with a receiver, otherwise he will receive instructions by visual signals.

The procedures which apply to aircraft without radio also apply to aircraft equipped with receiver only except that an airport controller may request the pilot to acknowledge a transmission in a specified manner. After the initial acknowledgement no further acknowledgement other than compliance with clearances and instructions is necessary, unless otherwise requested by the controller.

Visual Signals

Authorized visual signals used by the tower and their meanings are as follows:

To aircraft in flight:

1. STEADY GREEN LIGHT - Cleared to land.
2. STEADY RED LIGHT - Give way to other aircraft and continue circling.
3. A SERIES OF GREEN FLASHES - Return for landing. (Note: This shall be followed at the proper time by a steady green light.)
4. A SERIES OF RED FLASHES - Airport unsafe; do not land.
5. THE FIRING OF A RED PYROTECHNICAL LIGHT - Whether by day or night and notwithstanding previous instructions, means do not land for the time being.

Acknowledgement of Visual Signals - A pilot shall, where practicable, acknowledge all clearances and instructions received by visual signals. Signals may be acknowledged as follows:

- (a) Distinct rocking of aircraft in flight
- (b) At night, by a single flash of a landing light.

IFR FLIGHT

Initial Contact with Towers

Pilots shall establish communication with the control tower as follows:

- (i) if in direct communication with an area control centre or a terminal control unit, the pilot will be advised by the IFR controller when he is to contact the tower, or
- (ii) if the conditions in (i) above are not applicable, pilots shall establish communication with the tower when approximately 25 miles from the airport and shall remain on tower frequency.

Speed Adjustment - Radar-controlled Aircraft

For reasons given below, it is sometimes necessary to request speed adjustments, however, while ATC will take every precaution not to request speeds beyond the capability of the aircraft, it is the pilot's responsibility to ensure that he does not operate his aircraft at a speed below the safe minimum manoeuvring speed. If an ATC unit should request a speed reduction below the aircraft's safe manoeuvring speed, the pilot should inform ATC that he is unable to comply.

To avoid excessive vectoring when establishing an arrival sequence, controllers may request pilots of radar-controlled aircraft entering or about to enter the destination terminal area to adjust aircraft speed.

Speed adjustment requests will be expressed in units of ten knots or multiple of ten knots based on indicated airspeed (IAS). Pilots complying with speed adjustment requests are expected to maintain a speed within plus or minus ten knots of the specified speed.

Pilots of multi-engined aircraft may be requested to do one of the following:

- (a) Maintain present speed.
- (b) Increase speed to a specified speed or by a specified amount.
- (c) Reduce speed to a specified speed or by a specified amount.

Unless prior concurrence in the use of a lower speed is obtained from the pilot, the following minimum speeds will be applied to multi-engined aircraft:

- (a) For multi-engined turbo-jet and propeller-driven aircraft operating 30 miles or more from destination airport: - Not less than 250 knots IAS.
- (b) For multi-engined turbo-jet and propeller-driven aircraft operating 20 to 30 miles from destination airport, and
 - (i) at or above 10,000 feet ASL: - Not less than 250 knots IAS.
 - (ii) below 10,000 feet ASL: - Not less than 200 knots IAS.
- (c) For multi-engined turbo-jet aircraft operating less than 20 miles from destination airport: - Not less than 180 knots IAS.
- (d) For multi-engined propeller-driven aircraft operating less than 20 miles from destination airport: - Not less than 150 knots IAS.

Pilots of single-engine aircraft, or those of multi-engined aircraft, which cannot attain speeds as high as the minimum speeds specified above, may be requested to, if practicable, do one of the following:

- (a) Maintain a specified speed equivalent to that of a preceding or succeeding aircraft; or
- (b) Increase or decrease speed by a specified amount.

When application of speed adjustment procedures is no longer necessary, the pilot concerned will be advised to resume normal speed except when an approach clearance is issued. Approach clearances supersede speed adjustment assignments and pilots are expected to make their own speed adjustments, as necessary, to complete the approach.

Speed Adjustment - Non radar-controlled Aircraft

In order to reduce collision hazard in the vicinity of controlled airports it is considered advisable, unless otherwise authorized by ATC, to operate non-radar controlled aircraft at reduced speeds. When below 3,000 feet above ground and within 10 miles of the centre of a controlled airport, aircraft should be operated at an airspeed of 160 knots or less. For those aircraft which are unable to safely manoeuvre at this speed, it is recommended that they be operated at the minimum speed which permits safe control of the aircraft for the necessary flight manoeuvre.

Advance Notice of Alternate Airport - Jet Aircraft

Missed approaches by jet aircraft can be handled more efficiently if the controller knows of the pilot's intentions in advance. He can use the extra time to plan for the possibility of a climb-out and thus provide better service in the event of an actual missed approach.

Pilots of jet aircraft are encouraged to adopt the following procedure as the occasion arises:

On receipt of approach clearance, when the ceiling and visibility reported at the destination airport are less than 100 feet or one mile above the minima published for the type of approach to be executed, the pilot should advise the controller as follows:

In the event of missed approach request (altitude or flight level) via (route) to (airport).

It is recognized that implementation of this procedure will increase communications, but this can be minimized if pilots will employ it only when there is a reasonable chance that a missed approach may occur.

Approach Clearance

Pilots will be advised of the ceiling, visibility, wind, runway, altimeter setting and approach aid being used immediately prior to descent when direct IFR controller-pilot communications (DCPC) are employed.

When an approach clearance is issued the name of the approach as published will be used to designate the type of approach.

Example: CLEARED TO THE TORONTO AIRPORT ILS RUNWAY 05 LEFT APPROACH.
 CLEARED TO THE OTTAWA AIRPORT, STRAIGHT-IN ILS RUNWAY 07 APPROACH.

The runway on which the aircraft is to land will be included in the approach clearance when a landing is to be made on a runway other than aligned with the instrument approach aid being used.

Example: CLEARED TO THE OTTAWA AIRPORT, STRAIGHT-IN ILS RUNWAY 07 APPROACH,
 CIRCLING PROCEDURE FOR RUNWAY 32.

In order to apply the prescribed separation minima between aircraft intending to make a complete instrument approach and other aircraft, it is often necessary for ATC to establish the position and direction of an arriving aircraft with respect to the approach facility. When requested to report "outbound", pilots are expected to make such report only after they are:

- (a) proceeding away from the airport and
- (b) are either over or abeam the approach facility.

Terminal Radar Service

Radar separation is applied to arriving aircraft in order to establish and maintain the most desirable arrival sequence to avoid unnecessary "stacking". In the approach phase, radar vectoring is carried out to establish the aircraft on an approach aid. Aircraft are vectored so as to intercept the final approach course approximately 2 miles from the point at which final descent will begin. In the case of a precision radar approach, the aircraft is vectored by surveillance radar to a predetermined position, at which point control is transferred to the precision radar controller for the "talk-down".

Examples: JWC, ARRIVAL, 3 MILES FROM THE OUTER MARKER. TURN LEFT HEADING 170 TO INTERCEPT FINAL APPROACH COURSE. CLEARED TO THE TORONTO AIRPORT FOR STRAIGHT-IN ILS RUNWAY 14 APPROACH.

or, for radar approach -

JWC, ARRIVAL, TURN LEFT HEADING 170 FOR FINAL APPROACH. 8 MILES FROM THE AIRPORT. CLEARED TO THE TORONTO AIRPORT FOR A PRECISION RADAR APPROACH, RUNWAY 14.

Straight-in Approaches

ATC uses the term "straight-in approach" to indicate: An instrument approach wherein final approach is begun without first having executed a procedure turn.

Precision Approach Radar Monitoring of ILS Approaches

PAR monitoring of ILS front or back course approaches will be provided at locations served by precision approach radar whenever the ceiling is reported at or below 500 feet, the visibility is reported at or below one mile, or when requested by the pilot.

Monitoring will begin when the aircraft passes the final approach fix or when the aircraft is four nautical miles from the end of the runway, whichever point is further from the runway. At this point the pilot will be requested to report when he has the runway in sight.

Advisory information will normally be transmitted on the localizer "voice" feature. When the localizer voice feature is not available, the primary "Precision" frequency will be used.

When approach clearance is issued, the pilot will be informed of the frequency on which the monitoring information will be transmitted.

Examples: FOR RADAR MONITORING, LISTEN ON LOCALIZER VOICE, CONTACT MONTREAL TOWER ON 119 DECIMAL 1 NOW.

FOR RADAR MONITORING, CONTACT MONTREAL PRECISION ON 118 DECIMAL 0 NOW.

If monitoring cannot be provided, the pilot will be informed.

Example: RADAR MONITORING NOT AVAILABLE.

When an approach is monitored, the following information will be provided:

- (a) Distance from "touchdown" point, at each one nautical mile interval from touchdown.
- (b) Notice that the aircraft has passed the final approach fix.
- (c) Position of the aircraft in relation to the final approach course and the glide path. This information will be issued in conjunction with the distance from touchdown information and whenever the aircraft deviates from the final approach course or glide path in excess of specified limits.

NOTE: Glide path information is not issued during a back course approach, since the descent paths of these approaches generally do not coincide with the depicted PAR glide path.

- (d) Warning of any situation which, in the controller's judgement, is likely to affect the safety of the flight.

Provision of advisory information will be terminated and the pilot so informed when:

- (a) The pilot reports the runway in sight, or
- (b) When the aircraft reaches the end of the runway.

When approaches are being monitored, the radar serves only as a secondary aid, since the pilot has chosen the ILS as the primary aid for the approach. Accordingly, controllers have been cautioned to avoid superfluous transmissions which might distract the pilot from the conduct of the approach.

Visual Approaches

A visual approach in relation to IFR operation may be defined as that part of an approach by an IFR flight executed by means of visual reference to the surface of the earth.

Visual approaches have operational application under three distinct situations:

- 1. The pilot of an IFR flight performing his own navigation encounters environmental conditions favouring this type of an approach.
- 2. The pilot of an IFR flight being radar vectored for an approach encounters conditions as in 1.

In 1 and 2 the onus is on the pilot to request clearance for a visual approach. This may be issued by the controller provided that the reported ground visibility is equal to or greater than one statute mile and traffic conditions permit.

3. In order to gain operational advantages, the controller may initiate visual approach clearance to the pilot of an IFR flight being radar vectored for an approach provided:

- (a) The reported ceiling is at least 500 feet above the minimum radar vectoring altitude and the ground visibility is at least 5 statute miles.
- (b) The pilot reports sighting the airport.
- (c) The pilot reports sighting any preceding IFR or VFR traffic.

Radar separation from any preceding IFR aircraft will be provided until the clearance for visual approach is issued. Radar service will be terminated when the pilot is told to contact the tower. The tower will assign a landing sequence number.

Transponder Equipped Aircraft

Transponders should be adjusted to "stand-by" or "off" as soon as practicable after landing is completed.

EMERGENCIES

DECLARATION OF EMERGENCY

Whenever pilots are faced with an emergency situation, ATC expects the pilot will take whatever action is considered necessary. ATC will assist pilots in any way possible whenever an emergency is declared. Pilots are requested to advise ATC as soon as practicable of any deviations from altitude or route necessitated by an emergency situation, in order that every effort can be made to minimize conflict with other aircraft. Pilots are reminded that they may be asked by ATC for a written report concerning the nature of a declared emergency.

Pilots of transponder equipped aircraft, when experiencing an emergency and unable to establish communications immediately with an air traffic control unit, may indicate "Emergency" to ATC by adjusting the transponder to reply on Mode A/3, Code 77. Thereafter, radio communications should be established with ATC as soon as possible.

It should be pointed out that, when use is made of Code 77, the signal may not be detected because the aircraft may not be within the range of SSR coverage.

COMMUNICATION FAILURE IN IFR FLIGHT

All pilots and operators are urged to study the "Communications Failure in IFR Flight Order" (Air Navigation Order, Series V, No. 5).

While it is not proposed to repeat the contents of this Air Navigation Order, the following points of major importance are emphasized:

- A. Should a communication failure occur when operating in VFR weather conditions, or should VFR weather conditions be subsequently encountered, the pilot must continue to fly in VFR weather conditions and land at the nearest suitable aerodrome;
- B. Should the failure occur when operating in IFR weather conditions and should VFR weather conditions not be encountered, the pilot shall:
 - (1) except under the circumstances covered in (2) proceed to the aerodrome of first intended landing in accordance with the flight plan as amended by clearances and instructions received and acknowledged, maintaining the last assigned altitude or flight level, or the minimum enroute IFR altitude, whichever is the higher; and on reaching the facility to be used for approach, commence a complete instrument approach at whichever of the following times is the latest:
 - (a) the time of arrival, or
 - (b) the estimated time of arrival last notified to and acknowledged by air traffic control, or
 - (c) the expected approach time last received and acknowledged.
 - (2) if flying a turbine-powered (turbo-propeller or turbo-jet) aircraft and cleared on departure to a point other than destination, proceed to the destination aerodrome in accordance with the flight plan, maintaining the last assigned altitude or flight level, or the minimum enroute IFR altitude, whichever is the higher, until ten minutes beyond the point specified in the clearance (clearance limit) and then proceed at the altitude(s) or flight level(s) filed in the flight plan. On reaching the facility to be used for approach at the destination aerodrome, commence a complete instrument approach at either the time of arrival or the estimated time of arrival last notified to and acknowledged by air traffic control, whichever is the later.
- C. If a communication failure occurs after the pilot has received holding instructions and the procedure in B is being followed, he shall leave the holding point at the time specified in the clearance, the expected further clearance time, or the expected approach time, whichever has been issued.

If a communication failure occurs while an aircraft is being radar vectored, the pilot should proceed by a direct route from the point of the communication failure to the fix, course or airway specified in the vector instruction, taking due account of procedures set out in ANO Series V, No. 5.

When air traffic control clears a turbine-powered aircraft to the aerodrome of first intended landing, it will be at an altitude or flight level considered operationally suited to these aircraft. In these circumstances, should a communications failure occur, it will be possible for the aircraft to

proceed to the aerodrome of first intended landing at the assigned altitude or flight level. It is the responsibility of the pilot to advise ATC whenever the initially assigned altitude will not permit the aircraft to proceed to the airport of destination if a communication failure should occur.

On flights from Canada to the United States, should a communication failure occur prior to crossing the border, the pilot of a turbine-powered aircraft, who is complying with para. B (2), will consider the altitude at which he has flight planned for the border crossing segment of the route as the last assigned altitude for the purpose of complying with the United States communications failure regulations on entering United States airspace. When the aircraft will enter United States airspace within 10 minutes after passing the clearance limit, climb to the flight planned border crossing altitude is to be commenced at the estimated time of crossing the Canada/United States boundary.

Pilots of transponder-equipped aircraft, when experiencing a two-way communications failure, may indicate the situation to ATC by selecting Mode A/3 Code 76. This action is an indication of the situation only, and does not relieve the pilot of the requirement to comply with the "Communications Failure in IFR Flight Order" (ANO Series V, No. 5).

NOTE: When use is made of Code 76, the signal may not be detected either because the aircraft is not within SSR coverage or because the ATC unit concerned is using SSR equipment which does not automatically detect Code 76.

Should a situation develop for which there is no laid down procedure, the pilot-in-command will be expected to act in accordance with his own judgement. In any event, ATC will protect the airspace in the immediate vicinity of the aerodrome of first intended landing for a period of 30 minutes from the time at which the aircraft is expected to commence approach.

REPORTING MALFUNCTIONS OF NAVIGATION AND COMMUNICATIONS EQUIPMENT

The pilot-in-command of an aircraft in IFR flight within controlled airspace shall report immediately to the appropriate air traffic control unit any malfunction of navigation or air/ground communications equipment.

Examples:

- (a) loss of VOR, ADF or low frequency navigation capability, or
- (b) complete or partial loss of ILS capability, or
- (c) impairment of air/ground communications capability, or
- (d) impairment of transponder serviceability.

Having received this information, Air Traffic Control will take into account any limitations in navigation or air/ground communications equipment and control the aircraft accordingly.

EMERGENCY RADAR SERVICE TO VFR FLIGHTS

Radar equipped ATC units will provide all possible assistance to VFR flights which are unable to remain VFR, or are in any type of emergency or distress. Pilots desiring radar assistance for other reasons should refer to the section of this manual entitled "Radar Navigation Assistance to VFR Flights".

Emergency radar assistance will be given to VFR flights which are able to maintain two-way radio communication with the unit, are within radar coverage, and can be radar identified.

Pilots requiring radar assistance during emergency conditions should contact the nearest ATC unit and provide the following information:

- (a) Declaration of emergency (state nature of difficulty and type of assistance required).

- (b) Position of aircraft and weather conditions within which the flight is operating.
- (c) Type of aircraft, altitude, and whether equipped for IFR flight.
- (d) Whether pilot has an IFR Rating.

FLIGHT INFORMATION SERVICE

GENERAL

Flight information service is provided by air traffic control units to assist pilots of aircraft by supplying information concerning known hazardous flight conditions. This information will include data concerning unfavourable flight conditions and other known hazards, which may not have been available to the pilot prior to take-off or which may have developed along the route of flight.

The air traffic control service has been established primarily for the prevention of collisions and the expediting of traffic. The provision of such service will take precedence over the provision of flight information service, but every effort will be made to provide flight information and assistance.

Flight information will be made available, whenever practicable, to any aircraft in communication with an air traffic control unit, prior to take-off or when in flight except where such service is provided by the aircraft operator. Many factors (such as volume of traffic, controller workload, communications frequency congestion and limitations of radar equipment) may prevent a controller from providing this service.

VFR flights will be provided with information concerning:

- (a) Severe weather conditions along the proposed route of flight;
- (b) Changes in the serviceability of navigation aids;
- (c) Conditions of airports and associated facilities;
- (d) Other items considered pertinent to the safety of flight.

IFR flights will be provided with information concerning:

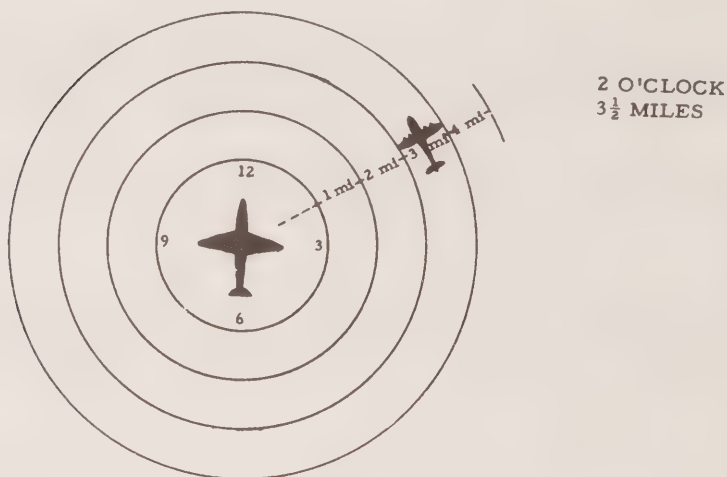
- (a) Severe weather conditions;
- (b) Weather conditions reported or forecast at destination or alternate aerodrome;
- (c) Changes in the serviceability of navigation aids;
- (d) Condition of airports and associated facilities;
- (e) Other items considered pertinent to the safety of flight.

Flight information messages are intended as information only. If a specific action is suggested, the message will be prefixed by the term "ATC SUGGESTS..." or "SUGGEST YOU..." and the pilot will be informed of the purpose of the suggested action. The pilot is responsible for making the final decision concerning any suggestion.

Surveillance radar equipment is frequently used in the provision of information concerning severe weather conditions, chaff drops, bird activity and possible traffic conflicts. Due to limitations inherent in all radar systems, aircraft, weather disturbances, etc., cannot be detected in all cases.

When issuing radar information, ATC will frequently define the relative location of traffic, weather areas, etc., by referring to the "clock" position system. A pilot receiving such information may determine the approximate location of traffic, weather, etc., in relation to his track which, regardless of direction, is always considered as 12 o'clock.

The following diagram illustrates the "clock" system.



Traffic information in this case will be issued as follows:

"TRAFFIC, 2 O'CLOCK 3 1/2 MILES, NORTHWEST-BOUND".

NOTE: The relative speed and the type of aircraft and altitude if known will be given.

BIRD ACTIVITY INFORMATION

Information concerning bird activity, obtained through controller's observations or pilot reports, will be provided to aircraft operating in the area concerned. In addition, pilots may be warned of possible bird hazards if radar observation indicates the possibility of bird activity. Information will be provided concerning:

- (a) Size or species of bird, if known.
- (b) Location.
- (c) Direction of flight.
- (d) Altitude, if known.

CHAFF INFORMATION

ATC will provide pilots who intend to operate through the area concerned with all available information relating to proposed or actual chaff drops.

- (a) Location of the chaff drop area.
- (b) Time of drop.
- (c) Estimated speed and direction of drift.
- (d) Altitudes likely to be affected.
- (e) Relative intensity of chaff.

SEVERE WEATHER INFORMATION

Whenever practicable, ATC will provide flights with severe weather information pertinent to the area concerned. Pilots may assist ATC by providing pilot reports of severe weather conditions which they encounter. ATC will endeavour to suggest alternate routes available in order to avoid areas in which severe weather exists.

Radar-equipped ATC units can often provide information on the location and movement of areas of heavy precipitation. However, during severe weather conditions the radar may be adjusted to eliminate or reduce radar returns from heavy precipitation areas in order to permit the detection of aircraft. When requested by a pilot, and provided traffic conditions permit, controllers will provide the pilot with detailed information on the location of heavy precipitation areas.

RADAR TRAFFIC INFORMATION

ATC will provide IFR and CVFR flights with information on observed radar targets whenever it is believed the traffic will be of concern to the pilot, unless the pilot states he does not want the information. This information may be provided to VFR aircraft when requested by the pilot.

If requested by the pilot, ATC will attempt to provide radar separation between identified IFR aircraft and the unknown observed aircraft.

Traffic information, when passed to radar-identified aircraft will be issued as follows:

- 1. Position of the traffic in relation to the aircraft.
- 2. Direction in which the traffic is proceeding.
- 3. Type of aircraft and altitude, if known, or the relative speed of the traffic.

Example:

TRAFFIC, 10 O'CLOCK, 6 MILES, SOUTHEAST-BOUND, (type of aircraft and altitude, or relative speed).

An aircraft not radar-identified would be issued traffic information in the following manner:

- 1. Position of the traffic in relation to a fix.
- 2. Direction in which the traffic is proceeding.
- 3. Type of aircraft and altitude, if known, or relative speed.

Example: TRAFFIC, 7 MILES SOUTH OF QUEBEC NDB, NORTHBOUND, (type of aircraft and altitude, or relative speed).

RADAR NAVIGATION ASSISTANCE TO VFR FLIGHTS

When requested by pilots, radar-equipped ATC units will provide assistance to navigation in the form of position information, vectors or track and ground speed checks. Flights requesting this assistance must be operating within areas of radar and communication coverage and be radar-identified.

VFR flights may be provided this service:

- (a) at the request of a pilot, when traffic conditions permit, or
- (b) when the controller suggests and the pilot concurs, or
- (c) in the interest of flight safety.

The responsibility for avoiding other aircraft and maintaining flight in VFR weather conditions remains with the pilot of a VFR flight being provided with radar vectors.

If a radar vector will lead a VFR flight into IFR weather conditions the pilot must inform the controller and take the following action:

- (a) if practicable, obtain a vector which will allow the flight to remain in VFR weather conditions, or
- (b) if an alternative vector is not practicable, revert to navigation without radar assistance, or
- (c) if the pilot has an IFR rating and the aircraft is equipped for IFR flight, he may file an IFR flight plan, and request an IFR clearance.

AUTOMATIC TERMINAL INFORMATION SERVICE (ATIS)

Automatic Terminal Information Service (ATIS) is the continuous broadcast of recorded non-control information on a VOR or discrete VHF/UHF frequency.

ATIS messages are recorded in a standard format and contain such information as:

- (i) Current weather at the airport, including ceiling and sky condition, visibility, obstructions to visibility, temperature, dew point and altimeter setting.
- (ii) The type(s) of instrument approach and runway(s) in use for arriving aircraft.
- (iii) The runway(s) in use for departing aircraft.
- (iv) NOTAM or excerpts from NOTAM regarding the serviceability of pertinent aids to navigation and field conditions which would affect arriving or departing aircraft.

Each recording will be identified by a phonetic alphabet code letter, beginning with "ALFA". Succeeding letters will be used for each subsequent message.

Example of ATIS Message:

"THIS IS TORONTO INTERNATIONAL AIRPORT INFORMATION BRAVO. TORONTO WEATHER: TWO THOUSAND SCATTERED, MEASURED CEILING THREE THOUSAND OVERCAST, VISIBILITY FIVE, HAZE; TEMPERATURE SIX FIVE, DEW POINT SIX ZERO; WIND ONE THREE ZERO AT TEN; ALTIMETER TWO NINER NINER TWO. EXPECT ILS RUNWAY ONE FOUR APPROACH. LANDING RUNWAY ONE FOUR. DEPARTURES ON RUNWAY ONE ZERO. NOTAM, GLIDE PATH ILS RUNWAY ZERO FIVE RIGHT OUT OF SERVICE UNTIL FURTHER NOTICE. INFORM TORONTO ATC ON INITIAL CONTACT THAT YOU HAVE RECEIVED INFORMATION BRAVO."

NOTE: Current time and RVR measurements will not be included in the ATIS message, but will be issued in accordance with current practices.

Pilots hearing the broadcast should inform the ATC unit on first contact (centre, terminal, ground, tower, etc.) that they have received the information, by repeating the code word which identifies the message, thus obviating the need for the controller to issue information.

Example: "..... HAVE RECEIVED INFORMATION BRAVO".

During periods of rapidly changing conditions which would create difficulties in keeping the ATIS message current, the following message will be recorded and broadcast:

"BECAUSE OF RAPIDLY CHANGING WEATHER/AIRPORT CONDITIONS, CONTACT ATC FOR CURRENT INFORMATION".

The success and effectiveness of ATIS is largely dependent upon the cooperation and participation of airspace users, therefore, pilots are strongly urged to take full advantage of this service.

TRANSMISSION OF METEOROLOGICAL INFORMATION TO
ARRIVING AIRCRAFT

The term CAVOK (KAV-OH-KAY) may be used in air-ground communications when transmitting meteorological information to arriving aircraft.

CAVOK will refer to the simultaneous occurrence of the following meteorological conditions:

- (a) cloud: no cloud of any amount below 5000 feet;
- (b) visibility: 6 miles or more;
- (c) weather: no precipitation or thunderstorm.

This term, coupled with other elements of meteorological information such as wind direction and velocity, altimeter setting and pertinent remarks, will be used in transmissions directed to arriving aircraft and, where applicable, in the composition of ATIS messages. A pilot, on receipt of CAVOK, may request that detailed information be provided.

CAVOK does not apply to the provision of meteorological information to enroute aircraft and, therefore, will not be used when such information is transmitted to aircraft engaged in that particular phase of flight.

The incorporation of CAVOK in Canadian aeronautical terminology is in keeping with a recommendation of the International Civil Aviation Organization (ICAO) Fifth Air Navigation Conference that the term be implemented for use on a world-wide basis.

SPECIAL PROCEDURES

NOTE: This section contains special procedures which have general application. For those procedures that apply to specific locations, see NOTAM Special Procedures and Facilities Land Aerodromes.

NORTHERN CONTROL AREA

ATC will assign altitudes in accordance with True Track as follows:

<u>Track</u>	<u>Flight Levels</u>
Between 000° and 179° inclusive	250, 270, 290, 330, 370, 410, 450, etc.
Between 180° and 359° inclusive	240, 260, 280, 310, 350, 390, 430, 470, etc.

Flights operating on approved tracks formed by navigation aids which are more than 500 nautical miles apart should make position reports at fixed lines in accordance with the following:

- (a) Flights whose track is predominantly North or South (315° true clockwise through 045° true or the reciprocals) shall report over fixed reporting lines coincident with each 5° of latitude north or south of and including 60° North latitude;
- (b) Except when operating on a preferred route, flights whose true track is predominantly East or West, (046° true through 134° true or the reciprocals) shall report over fixed reporting lines coincident with each 10 degree meridian east and west of and including 100° west longitude, except that where 20 degrees of longitude will be traversed in less than 60 minutes the flight may report over such reporting lines spaced at 20 degrees intervals.
- (c) Except when operating on a preferred route, when forwarding a position report the "position" will be expressed by the latitude and longitude at which the reporting line is crossed. For North or Southbound flights, the latitude should be expressed in degrees only, and longitude in degrees and minutes. For East or Westbound flights, the longitude should be expressed in degrees only and the latitude in degrees and minutes. These reports should be made direct to ATC units using peripheral communications where available. If not possible, such reports will be made to Frobisher, Churchill, Winnipeg or Edmonton Aeradio Stations as appropriate, using the published frequencies. If radio contact cannot be established or maintained with any of the above-mentioned stations, position reports will be made to the nearest military unit, or to the nearest MOT Aeradio Station, on the appropriate HF or VHF frequency.

Communications

Westbound aircraft from the Sondrestrom FIR entering that portion of the NCA contained within the Edmonton FIR are to establish communication with Frobisher or, alternately, Churchill, Edmonton or Winnipeg; and, westbound aircraft from the Moncton FIR entering that portion of the NCA contained within the Winnipeg FIR are to establish communication with Churchill or Winnipeg, on International HF air/ground frequencies as soon as possible.

EDMONTON ARCTIC CONTROL AREA

Effective April 2, 1970, Canadian controlled airspace at Flight Level 290 and above will be extended to the North Geographic Pole. The New control area will be designated the Edmonton Arctic Control Area (ACA). On the above effective date the Edmonton Upper Flight Information Region is cancelled.

The Edmonton Arctic Control Area is designated as the navigable airspace at Flight Level 290 and above within the following prescribed area and within which air traffic control service is provided. Commencing at the North Geographic Pole; thence to 69°00'N, 141°00'W; to 72°00'N, 129°00'W; to 72°00'N, 92°05'W; to 74°00'N, 68°18'W; to 76°00'N, 76°00'W; to 78°00'N, 75°00'W; to 82°00'N, 60°00'W; to the point of beginning. The area is depicted on the accompanying chart.

Air Traffic Control Service is provided from the Edmonton Area Control Centre to all aircraft operating within the Edmonton Arctic Control Area.

All flights operating within the Edmonton Arctic Control Area are requested to comply with the following flight planning, reporting and communication procedures.

Flight Planning

Flight plans should be filed in accordance with ICAO flight planning procedures. The route of flight should be defined by listing, in latitude and longitude, sufficient geographical points to adequately portray the intended track, including the significant reporting points which are required and which are detailed below.

Position Reporting

Unless otherwise requested by Air Traffic Control, flights operating within the Edmonton Arctic Control Area shall make position reports in accordance with ICAO AIREP format, including Section 3.

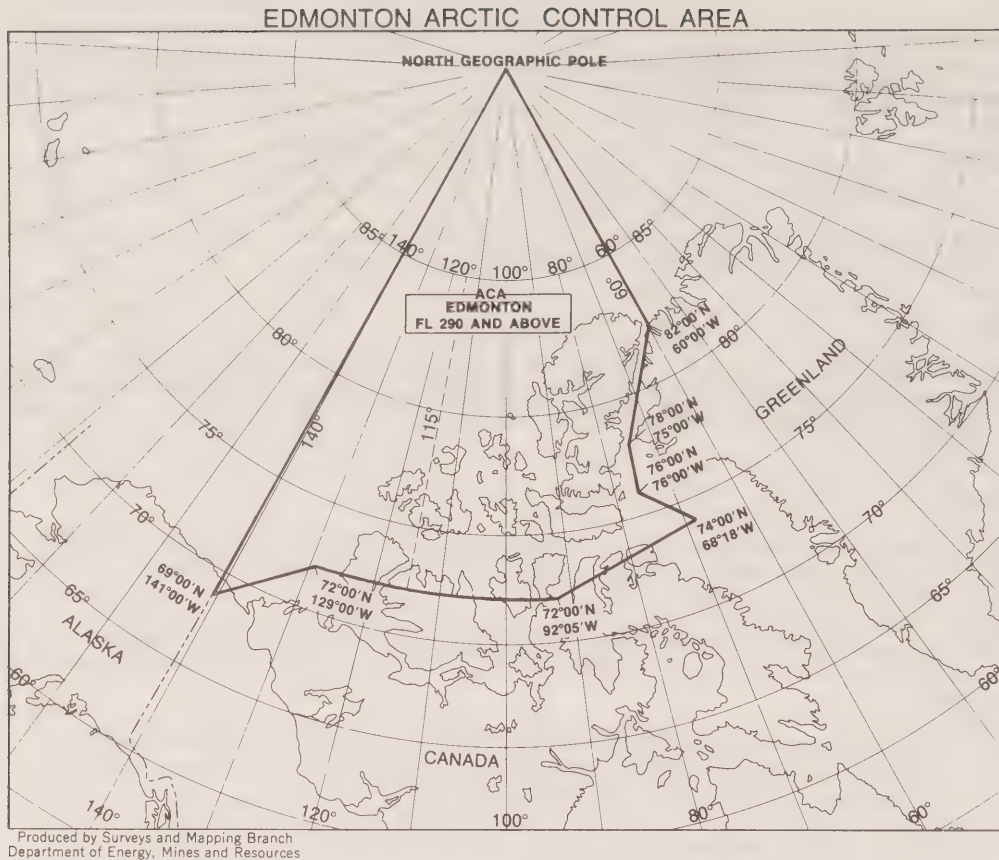
Three significant meridians of longitude have been selected as position reporting lines for the Edmonton Arctic Control Area. These position reporting lines are coincident with the 140°W, 115°W and 60°W meridians.

- (i) Flights traversing the ACA shall report the point at which the position lines of the 140°W, 115°W and 60°W meridians are crossed. If crossing the ACA North of 85°N latitude the 115°W position report is not required.
- (ii) Flights which do not cross the 60°W meridian on entry or prior to entry within the ACA shall report their point of entry into the ACA.
- (iii) Flights which do not cross the 140°W meridian after entry within the ACA shall report their point of entry into the ACA.
- (iv) Flights which do not cross the 60°W meridian on leaving or after leaving the ACA shall report their point of exit from the ACA.
- (v) Flights which do not cross the 140°W meridian prior to leaving the ACA shall report their point of exit from the ACA.
- (vi) Generally northbound or southbound flights which will not cross the significant position reporting lines shall report their points of entry and exit from the ACA.

Air/Ground Communications

The Cambridge Bay Aeradio Station is the primary air/ground communication station serving the Edmonton Arctic Control Area.

Communication should be established with Cambridge Bay on one of the international high-frequencies of 5624, 8913.5 or 13328 kHz on entry or prior to entry into the area and a listening watch on this station maintained while in the area, unless otherwise instructed. If communication cannot be established with Cambridge Bay, contact should be established through Resolute, Edmonton, Frobisher, Churchill or other International Stations on published frequencies.



NORTH ATLANTIC OCEANIC CONTROL PROCEDURES

Flight Planning Procedures for Westbound North Atlantic Non-Stop Flights

Pilots of potential non-stop westbound flights may flight plan to any suitable aeronautical radio facility or designated intersection east of 70°00'W, and in addition, specify route and altitude to any of the approved Regular or Alternate aerodromes listed in the current DOT Information Circular on "USE OF AERODROMES BY AIRCRAFT ENGAGED IN INTERNATIONAL AIR CARRIER OPERATIONS" for use as the flight planned alternate.

Prior to reaching the flight planned fix or clearance limit, the pilot, after assessing the onward flight conditions, will normally file to the airport of ultimate destination and will request an ATC clearance accordingly. However, should it be determined that flight to the airport of destination is undesirable, the pilot will file to a regular or alternate airport and request an appropriate ATC clearance.

If for any reason an onward ATC clearance from the flight planned fix is not obtained by the time the fix is reached, the pilot must proceed towards the alternate in the manner specified in the flight plan or amendments thereto.

This procedure is designed only to facilitate the operation of certain types of aircraft in use on the North Atlantic with a long range capability. It is not designed or intended to increase the use of any of the approved Alternates, except under proper circumstances. Any abuse of the procedure may result in the arrangement being cancelled.

Arrangements for Reduced Lateral Separation

Eastbound aircraft on diverging tracks from North America which are separated by 60 nautical miles within 250 nautical miles of a ground navigational facility will be deemed to have lateral separation provided the tracks diverge to establish 120 nautical miles separation at the next designated reporting point.

Flight Planning Procedures

All generally eastbound or westbound aircraft planning to operate within the Gander Oceanic Control Area must flight plan so that specified ten degrees of longitude (60°00'W, 50°00'W, 40°00'W, 30°00'W) as applicable are crossed at whole degrees of latitude. Generally northbound or southbound aircraft must flight plan so that specified parallels of latitude spaced at 5° intervals (65°00'N, 60°00'N, 55°00'N, etc.) are crossed at whole degrees of longitude.

All flights must operate on a great circle track joining successive significant points.

"Estimated Elapsed Times" (EET) now required for North Atlantic Operations are replaced by "Estimated Times Over Significant Points Enroute" (EST) and are to be inserted in Item 18 of the ICAO flight plan

TAS is to be inserted in Item 15 of the form, except for those stage lengths along the route of flight within the NAT Region where Mach number techniques are employed. In this area, speed shall be indicated as a Mach number.

Pilots entering the Gander Oceanic Control Area may expect that an abbreviated clearance will be issued when Air Traffic Control clears the aircraft to follow one of the organized tracks which are preplanned by ATC to organize and accommodate the oceanic traffic during peak traffic periods. If a pilot is cleared on other than an organized track, ATC will specify full details of the cleared track within the clearance.

When an abbreviated clearance is issued, it will include the cleared track which will be specified by a code letter, the flight level at which the aircraft is cleared, the Mach number to be maintained and, if the aircraft is designated to report meteorological information, the pilot will be advised by the inclusion in the clearance of the phrase "Send Met. Reports". On receipt of this abbreviated clearance, the pilot shall read back to the issuing authority the full details of the track specified by the code letter and in addition the other contents of the clearance. As part of the preflight planning, operators are to ensure that their crews have the current organized track information which is issued by the Gander Area Control Centre.

Position Reporting Procedures

Unless otherwise requested by Air Traffic Control, flights operating within the Gander Oceanic Control Area shall make position reports in accordance with the reporting procedures detailed in ICAO DOC 7030 to Gander (Primary) or Frobisher (Secondary) on the appropriate international air/ground frequencies as follows:

- (a) Predominantly north/south flights shall report at each significant point listed in the flight plan.
- (b) Westbound flights shall report at 30°00'W, 40°00'W, 50°00'W and, if crossed north of 53°00'N, the Domestic/Oceanic boundary. In addition, all flights which are operating below Flight Level 290 shall also report at 45°00'W.

- (c) Eastbound flights shall report at 50°00'W, 40°00'W, 30°00'W and, if crossed north of 53°00'N, the Domestic/Oceanic boundary.

All flights operating in that portion of the Gander Oceanic Control Area over Southern Greenland and the adjoining waters at FL 160 and above should report primarily to Gander, or, alternatively to Frobisher or Prins Christian Sund, on international air/ground frequencies.

In addition to maintaining a listening watch on the appropriate enroute frequency, flights are to establish communication with Gander, Moncton or Frobisher, whichever is appropriate, as soon as possible, and maintain a listening watch in accordance with the following:

NOTE: For each location, the first two frequencies listed are the primary frequencies.

1. Within 200 nautical miles of Gander, Saglek and Frobisher at or above FL 290, and of Goose at or above FL 240:
 - (a) Gander - Call Gander Centre - 133.9, 294.5, 384.5, 125.9 or 124.8 MHz.
 - (b) Saglek - Call Moncton Centre - 122.2 or 364.2 MHz.
 - (c) Frobisher - Call Frobisher Radio - 122.2, 287.0 or 126.7 MHz.
- Call Frobisher International Radio - 126.9 MHz.
 - (d) Goose - Call Moncton Centre - On or north of a line joining
Capelin-Goose-Lake Eon - 132.4 MHz.
- South of above referenced line - 133.1 MHz.
2. Within 150 nautical miles of Gander, Saglek and Frobisher below FL 290, and of Goose below FL 240:
 - (a) Gander - Call Gander Centre - 119.7, 294.5, 119.9 or 384.5 MHz.
 - (b) Saglek - Call Moncton Centre - 122.2 or 364.2 MHz.
 - (c) Frobisher - Call Frobisher Radio - 122.2, 287.0 or 126.7 MHz.
- Call Frobisher International Radio - 126.9 MHz.
 - (d) Goose - Call Moncton Centre - 120.4, 294.5, 133.4 or 324.3 MHz.
3. Westbound flights at any level within 150 nautical miles of Sydney, excluding flights established on designated airways: Call Moncton Centre - 134.4, 266.3 or 118.2 MHz.

Eastbound flights which traverse the Gander Domestic FIR in the high level structure between the hours 2300 GMT and 0800 GMT daily, are (in addition to monitoring the appropriate sector frequency) required to establish contact on the Gander clearance delivery frequency 119.4 MHz unless otherwise directed, when within 200 miles of Gander.

In these position reporting procedures, the pilot shall normally identify the subsequent position to report as the significant point at which the aircraft is next required to report its position. If the estimated time over the next significant point is found to be in error by five minutes or more, a revised estimated time shall be transmitted as soon as possible to the appropriate Air Traffic Control Unit. For turbo-jet aircraft, the Mach number shall be included in the position report only when this information is specifically requested by Air Traffic Control.

All pilots operating aircraft within the Gander Oceanic Control Area under the Instrument Flight Rules shall make, record and report on a routine basis meteorological observations at each designated reporting point. This stipulation applies whether the aircraft is eastbound or westbound; however, aircraft which are cleared on an organized track are not required to make such observations or reports unless specifically requested to do so within their Air Traffic Control Clearance.

Mach Numbers

The following procedures are applicable to jet aircraft equipped with Mach Meter systems and operating in the Gander Oceanic Control Area:

- (a) The Mach number approved by ATC shall be adhered to within a tolerance of plus or minus zero point zero one (0.01) and ATC approval shall be requested before making any change. If it is necessary to make an immediate temporary change in Mach number (e.g., due to turbulence), ATC must be notified as soon as possible that such a change has been made.
- (b) ATC will include in each clearance an approved Mach number.
- (c) Operators are requested to ensure that Mach meter systems of aircraft be carefully calibrated in order to allow correct use of this equipment.

ADVANCED FLOW CONTROL PROCEDURES

Advanced Flow Control Procedures (AFCPs) have been developed by the United States Federal Aviation Administration to provide its Air Traffic Control system and its users with some reasonable degree of arrival delay prediction. They have been initially implemented for the New York area airports, John F. Kennedy (JFK), La Guardia (LGA) and Newark (EWR).

AFCP's are designed to:

- (a) Hold aircraft on the ground at departure points to absorb arrival delay in excess of one hour.
- (b) Distribute delays equitably among all users.
- (c) Limit holding in New York Centre's area to one hour or less provided sufficient demand can be maintained on the ATC system to preclude gaps in the arrival sequence.
- (d) Eliminate enroute holding of traffic destined for Newark, La Guardia and Kennedy, in other than New York Centre's airspace.

Application of AFCP's will be based on the following:

- (a) Each IFR aircraft destined for Newark, La Guardia or Kennedy airport should file a flight plan so as to reach the departure Air Traffic Control Centre (ACC) at least 1½ hours prior to the proposed departure time.
- (b) The departure ACC will assign a time of departure to each flight and advise the facility with which the flight plan was filed of this time at least one hour prior to the filed proposed departure time.
- (c) Pilots or operators must then call the facility with whom they filed and obtain their assigned time of departure.
- (d) Pilots will be expected to make good their assigned time of departure within plus or minus 15 minutes, unless otherwise instructed or restricted by ATC.
- (e) Upon receipt of an Advanced Flow Control Restriction (AFCR) message from the New York Centre, controllers of the concerned ACCs will notify their respective facilities that AFCRs are in effect for aircraft destined for Newark, La Guardia and Kennedy airports and specify ground delays as noted in the message. This early notification is designed to let operators be aware that they may experience a ground delay; specific delays will not be known until the assigned times of departure have been computed.

Montreal and Toronto Air Traffic Control Centres are participating in Advanced Flow Control Procedures. All aircraft destined for one of the three New York city airports that depart within the areas controlled by Toronto and Montreal ACCs may be affected.

In the interest of minimizing enroute delays or eliminating intermediate landings which probably would otherwise be necessary, pilots and operators are urged to extend their co-operation in recognizing and complying with these procedures.

EXTENDED TERMINAL CONTROL SERVICE - GENERAL

In the interest of improving flight safety in terminal areas, the air traffic control system of the Department of Transport will implement Extended Terminal Control Service in terminal areas around major Canadian airports.

Under the present system, radar surveillance is provided to IFR flights routinely and to VFR flights on request. The new service will employ radar for the surveillance, control and integration of all participating flights operating in a defined Extended Service Area. Participating flights will consist of all IFR flights and those VFR flights whose pilots wish to receive the service.

Airspace around other airports within the area will be defined and capped at suitable altitudes. Aircraft using this airspace will operate under normal existing rules and procedures.

All participating flights operating within the Extended Service Area and the control zone around the major airport will be directed via radar vectors, radio or visual reporting points. Therefore, it will be necessary for pilots of these flights to establish radio contact with ATC prior to operating within the Extended Service Area and the control zone serving the major airport and to maintain communication while operating within these areas.

The service will not relieve pilots of the responsibility for maintaining a sharp lookout for other aircraft, avoiding IFR weather conditions and maintaining adequate obstacle clearance.

Visual separation may be used when a pilot informs ATC that he has his traffic in sight and has confirmed that he will be able to maintain visual separation. It will require that participating pilots be capable of maintaining communication with the appropriate ATC units, that they abide by ATC clearances and that they be prepared to accept such direction as will allow effective integration into a smooth air traffic flow. They will be required, for example, to follow ATC directives or radar vectors, provided compliance will not result in their entering weather conditions below the VFR weather minima. If it becomes apparent to a pilot that compliance would have this result, he must advise ATC immediately and will receive alternative instructions. As some VFR flights may not be equipped to utilize existing navigation aids, prominent geographical fixes for reporting, routing and holding purposes will be designated. Extreme care will be taken in selecting these fixes to ensure that they are readily identifiable from the air. Selected visual fixes will be depicted on charts and included in relevant Information Publications.

Amendments and additions to this NOTAM will be published detailing for each selected location, where and when the service is to be implemented, the dimensions of the Extended Service Area and other related areas, the pilot and ATC procedures to be employed, and the radio frequencies and reporting points to be used.

SCATANA TESTS

Pilots are advised that procedures have been developed for testing the effectiveness of the agencies and communications facilities which would be employed should it become necessary to implement the Security Control of Air Traffic and Air Navigation Aids Rules (ANO, Series V, No. 14, Part VI). These procedures will be exercised from time to time without advance notice.

These tests should in no way inconvenience aircraft in flight other than to make a routine acknowledgement of the test message which may be transmitted to them. The normal test message will read as follows:

"THIS IS A SCATANA TEST. REPEAT. THIS IS A SCATANA TEST. ALL AIRCRAFT WILL ACKNOWLEDGE THIS MESSAGE AND CONTINUE NORMAL OPERATIONS".

As these tests are considered essential to national security, the co-operation of all pilots and agencies is necessary.





NOTAM



GENERAL

6/71
19th April

MINISTRY OF TRANSPORT

CANADIAN AIR TRANSPORTATION ADMINISTRATION

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FIRE FIGHTING OPERATIONS - INTERFERENCE AVOIDANCE

(Supplementing Information Circulars 0/30/64, 0/7/69 and Part 5 of the Flight Information Manual)

It has been reported that pilots of private and commercial aircraft not in the employ of forestry fire control officials are seriously interfering with, and jeopardizing the safety of, aerial fire fighting operations.

Such interference is occasioned by pilots flying over and around forest fires when aerial water bombers and helicopters are engaged in control operations, as well as by pilots using forestry airstrips when bombers and other forestry aircraft are on emergency operations.

In the interest of safe and efficient aerial fire fighting operations, pilots of aircraft not engaged in this activity are to avoid the airspace in the vicinity of forest fires and the use of forestry aerodromes during such periods. If these aerodromes must be used, pilots of other aircraft are urged to give precedence to those on fire suppression duties.

W.M. McLeish

W.M. McLeish,
Director, Civil Aviation.



NOTAM



Gouvernement du Canada
Air Traffic Control

8/71

15th April

MINISTRY OF TRANSPORT

CANADIAN AIR TRANSPORTATION ADMINISTRATION

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TRANSPONDER OPERATION

(Amending NOTAM 5/71 and Part 6 of the Flight Information Manual)

A new Radar Transponder Order (Air Navigation Order, Series II, No. 10), containing regulations concerning operation of Secondary Surveillance Radar (SSR) transponder equipment, has recently been made as SOR/71-143. It differs significantly from the previous Order only with relation to certain codes which are selected by pilots without direction from air traffic control.

To implement the Radar Transponder Order, the following changes are being made effective 0001 GMT June 1, 1971:

- (a) Code 30 replaces Code 21 for operations above FL 230, and
- (b) Codes 12 and 14 have been allocated for use by VFR flights, replacing the general purpose Code 06.

ATC phraseology related to transponder operation will be changed, as follows:

- (a) The mode in use will no longer be specified, since Mode A/3 (i.e., civil Mode A or military Mode 3) is the only mode currently used by ATC.
- (b) Four-digit code designations (e.g., 2100) will be used to enable ATC to utilize the newer, 4096-code transponders.

PROCEDURES

General

When instructions concerning transponder operation are received from ATC, transponders shall be operated as directed until further instructions are received or until the aircraft has landed, except in the case of an emergency or communication failure.

The identification ("IDENT") feature shall be operated only when directed by ATC.

Transponders should be adjusted to "standby" while taxiing for take-off, to "on" (or "normal") as late as practicable before take-off, and to "standby" or "off" as soon as practicable after landing is completed.

IFR Flight - Above FL 230

Transponders shall be operated as directed by ATC or, if no direction is given by ATC, adjusted to reply on Mode A/3, Code 3000.

IFR Flight - FL 230 or Below

Transponders shall be operated only as directed by ATC.

If the pilot cancels his IFR flight plan, he should adjust his transponder to reply on the appropriate VFR code specified below, unless otherwise directed by ATC.

Controlled VFR Flight

Transponders shall be operated only as directed by ATC.

On leaving the Block Airspace, the transponder should be adjusted to reply on the appropriate VFR code specified below, unless otherwise directed by ATC.

VFR Flight (Outside Block Airspace)

Unless otherwise directed by ATC, transponders should be operated on one of the following Mode A/3 codes, as appropriate:

- (a) Code 1200 - for operation below 10,000 feet ASL.
- (b) Code 1400 - for operation from 10,000 feet ASL to FL 230, inclusive.

NOTE: When climbing to 10,000 feet or above, Code 1200 should be used until reaching 10,000 feet, then Code 1400 should be selected. When descending from 10,000 feet or above, Code 1200 should be selected upon leaving 10,000 feet.

Emergencies

In the event of an emergency, if unable to establish communication immediately with an ATC unit, a pilot wishing to alert ATC to the emergency situation should adjust his transponder to reply on Mode A/3, Code 7700. Thereafter, communication with ATC should be established as soon as possible.

Communication Failure

In the event of a communication failure, the transponder should be adjusted to reply on Mode A/3, Code 7600 to alert ATC to the situation. This action does not relieve the pilot of the requirement to comply with the "Communication Failure in IFR Flight Order" (ANO, Series V, No. 5).

NOTE: When using Code 7600 or 7700, pilots must recognize the possibility of the signal not being detected, since the aircraft may not be within a radar coverage area.

PHRASEOLOGY

Air traffic controllers will use the following phraseology when referring to the operation of transponders. Instructions from ATC refer only to Mode A/3.

In order to utilize 4096-code transponders, ATC will use four-digit code numbers; e. g., Code 2100, expressed as TWO ONE ZERO ZERO. Pilots with 64-code transponders should disregard the last two digits of the code number; e. g., if assigned Code 2100, dial in the numerals 21.

SQUAWK (number) - Operate transponder on specified code in Mode A/3.

SQUAWK IDENT - Activate the identification ("IDENT") feature of the transponder.

SQUAWK (number) AND IDENT - Operate transponder on specified code in Mode A/3 and activate the "IDENT" feature.

SQUAWK STANDBY - Switch transponder to "standby" position, retaining present mode and code.

SQUAWK LOW/NORMAL - Operate transponder on low or normal sensitivity, as specified. (Transponder is operated on normal sensitivity unless ATC specifies "low". "ON" is used instead of "NORMAL" as a label on some transponder control panels.)

SQUAWK MAYDAY, CODE SEVEN SEVEN ZERO ZERO - Operate transponder on Mode A/3, Code 7700.

STOP SQUAWK - Switch off transponder.

W.M. McLeish

W.M. McLeish,
Director, Civil Aviation.

NOTAM



Aerodromes-Land

9/71
21st June

MINISTRY OF TRANSPORT

CANADIAN AIR TRANSPORTATION ADMINISTRATION

CALGARY INTERNATIONAL AIRPORT

Extensive Repairs And Maintenance -
Runway 16-34
July 19, 1971 To October 31, 1971

It is planned to carry out extensive rehabilitation of Runway 16-34 and parts of the taxiways at Calgary International Airport during the summer period between July 19th, and October 31st, 1971. This project will result in continually changing field conditions during the period.

The status of runways together with essential advance information concerning the status of associated ILS and lighting facilities will be advertised by Class I NOTAM as the project proceeds.

Enquiries regarding the above may be addressed to:

Regional Director,
Canadian Air Transportation Administration,
Ministry of Transport,
9820 - 107th Street,
Edmonton 14, Alberta

W.M. McLeish

W.M. McLeish,
Director, Civil Aviation

TO HAVE MAILING ADDRESS CHANGED PRINT NEW ADDRESS ON THE ENVELOPE IN WHICH THIS CIRCULAR WAS RECEIVED AND RETURN TO RECORDS MANAGER, DEPARTMENT OF TRANSPORT, OTTAWA. (POSTAGE FREE IF MAILED IN CANADA).

NOTAM



Hazards

11/71

15th June

MINISTRY OF TRANSPORT

CANADIAN AIR TRANSPORTATION ADMINISTRATION

Page 1 of 2

HAZARDS TO AIR NAVIGATION

UNITED STATES AIR FORCE - LOW-LEVEL TRAINING FLIGHTS

Effective July 28, 1971, until January 20, 1972, the United States Air Force low-level training flights over Canada (Dickinson OB 76) will penetrate Canadian airspace from bases located in the United States at 49°00'N, 104°00'W and proceed along the route depicted on the reverse side of this NOTAM.

The aircraft will follow this route within 4 NM either side of the centreline as shown except that between the positions 49°19'N, 100°30'W and 49°15'N, 99°22'W the route width will expand to 8 NM on the NORTH side of the centreline and to 6 NM on the SOUTH side of the centreline, and will be flown at the altitudes shown on the chart.

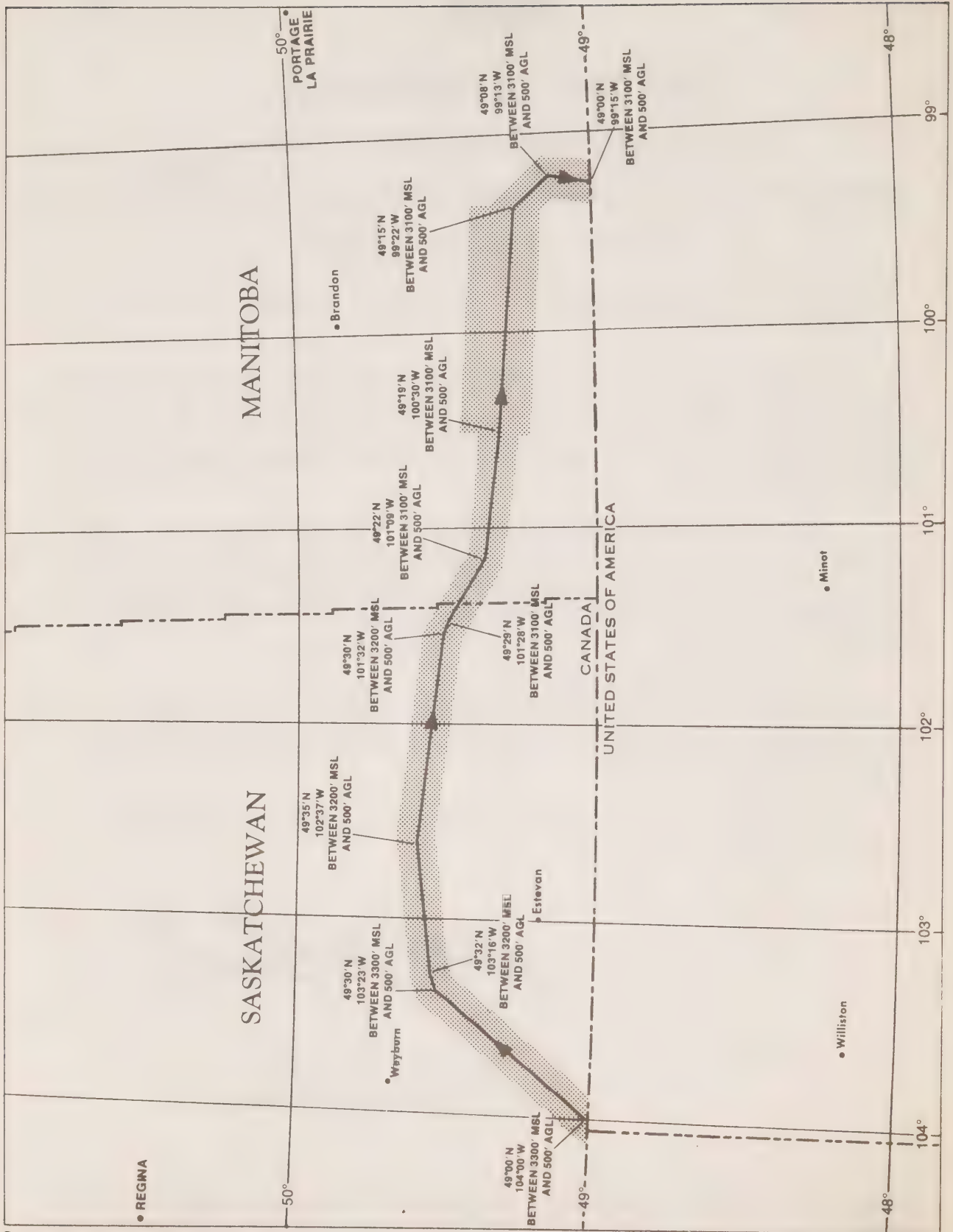
These flights may continue each day of the week on a 24-hour basis. To obtain same day information concerning military activity along this route, pilots may telephone collect to the Winnipeg Area Control Centre at 204-786-4208.

Pilots are urged to exercise caution when flying in the vicinity of the route shown.

W.M. McLeish,
Director, Civil Aviation

TO HAVE MAILING ADDRESS CHANGED PRINT NEW ADDRESS ON THE ENVELOPE IN WHICH THIS CIRCULAR WAS RECEIVED AND RETURN TO RECORDS MANAGER, DEPARTMENT OF TRANSPORT, OTTAWA. (POSTAGE FREE IF MAILED IN CANADA).

DICKINSON OB 76



NOTAM

12/71
20th JulyMINISTRY OF TRANSPORT
CANADIAN AIR TRANSPORTATION ADMINISTRATION

Page 1 of 72

SPECIAL PROCEDURES AND HAZARDS TO AIR NAVIGATION

(Superseding NOTAM 5/68, 15/68, 23/68, 26/68, 29/68, 31/68, 13/69, 17/69, 2/70, 5/70, 13/70, 15/70, 19/70, 22/70, 23/70, 2/71, and Information Circular 0/18/69 and supplementing and amending Part 5 of the Flight Information Manual 1971 edition as applicable)

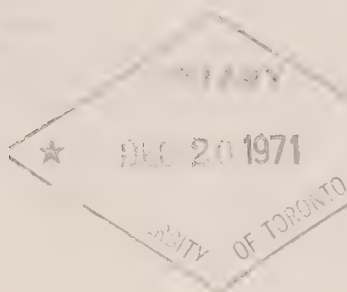
PART I - SPECIAL PROCEDURES - LAND AERODROMES
PART II - HAZARDS AND OBSTRUCTIONS

In order to alert pilots to the existence of special procedures and hazards in the vicinity of certain aerodromes, such information is shown in the tabulation following. With respect to the parachute jumping areas listed, pilots are cautioned that descents in UNCONTROLLED AIRSPACE may be made at unspecified times and without co-ordination by ATC or notification by a Class I NOTAM.

A number of Special Procedures, by virtue of their lengthy description, cannot be sufficiently condensed for inclusion in the tabulation. These are published after the tabulated portion.

Other Special Procedures and potentially hazardous conditions either far removed from aerodromes or occurring in large areas are more appropriately considered to be enroute special procedures or hazards and therefore are not shown in the tabulation. Complete details of these are published after the tabulated portion.

For Special Procedures, Hazards and Restricted Landing Areas at Water Aerodromes, see Canada Air Pilot Water Aerodrome Supplement.

*W.M. McLeish*

W.M. McLeish,
Director, Civil Aviation.

PART 1
SPECIAL PROCEDURES AND HAZARDS
LAND AERODROMES

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PART I

SPECIAL PROCEDURES AND FACILITIES

LAND AERODROMES

SPECIAL PROCEDURES AND HAZARDS

LEGEND

X Positive Control Zone. When the control unit is operating, clearance for flight within the zone is mandatory.

(M) Military Aerodromes - Prior Permission Required (P.P.R.). For use by civil aircraft see page 43. Flight Plans are Mandatory.

(RHC) Right hand circuits on rwys indicated.

DESCRIPTION AND REFERENCE

BRITISH COLUMBIA

<u>X</u> Abbotsford	06(RHC) 36(RHC)	Gliders use grass area parallel to Rwy in use. Glider circuits opposite direction to powered aircraft. Parachuting from 12,500' ASL, 5½ N at 49°06' N, 122°20' W, 1600Z daily, until dark. Area marked by large orange X. Parachuting from 7000' ASL, 9 NW at 49°09' 30"N, 122°27' 20"W, 1900Z until 2 hours after dark, weekends and holidays. For emergency services available to diverted regular scheduled aircraft see page 12. For special procedures re parachuting 5½ N see page 70. Continuous transcribed Weather broadcast on 344 kHz.
Castlegar	15(RHC)	Mountains over 7700' ASL surround airport. Power line 1700' from threshold Rwy. 33.
Chilliwack		Parachuting from 8000' ASL, 4.5 E at 49°08' 30"N, 121°50' 30"W, daylight hours. Parachuting from 5500' ASL, 13 NM SW at 49°05' N, 122°05' 30"W, daylight hours. Parachuting from 8000' ASL, 6½ NM E at 49°08' 30"N, 121°50' 30"W, daylight hours.
<u>X</u> Comox (M)	36(RHC) 29(RHC)	Day and night operations within Control Zone (10 NM). See Courtenay Air Park below. Bump: 18 inch rise for 150' on Rwy 18 at intersection 11-29. Terminal radar unreliable. Primary radio frequencies for communicating with Comox Control Tower are 126.2 and 122.5R.
Courtenay Air Park		Aircraft must remain below 1000' ASL and south of line Courtenay River mouth and Naval Base on Goose Spit.
Cranbrook	34(RHC)	Tower 4114' ASL 3 miles SW.
Dog Creek		See page 12 re conservation of California Bighorn Sheep.

DESCRIPTION AND REFERENCE

BRITISH COLUMBIA (Cont'd)

Gibsons-Sechelt	11(RHC)	
Hope		Gliders and gyroplanes T/O and land north of Rwy centreline on weekends and holidays. Operate to 12,000' ASL. Other aircraft T/O and land south of Rwy centreline.
<u>X</u> Kamloops	04(RHC) 22(RHC) 26(RHC)	Avoid flying over Gaol at Raleigh, 10N, below 2177' ASL. Parachuting from 8500' ASL, 10E at 50°44'12"N, 120°13'W, on weekends, daylight hours, call Tower. For radio and circuit procedures see page 12. For Fraser Canyon VHF Communication Service see page 13. Glider operations are carried out on Saturdays, Sundays and Mondays on the grass area south of, and parallel to, runway 08-26. Glider circuits are to the south of runway 08-26.
Langley	25(RHC)	Six-foot eight-pound radio controlled model aircraft 734' ASL and below, 5 miles WNW, at Cloverdale, 49°08'N, 122°45'W, hazardous to practice forced landing approaches. Rwy 07-25 and grass areas soft during wet season. See page 71 for Parachuting Area.
Nanaimo	34(RHC)	Airport surrounded by mountains.
<u>X</u> Penticton	34(RHC)	Avoid Dominion Radio Astrophysical Observatory (5 NM radius) 15 miles south at 49°18'45"N, 119°39'05"W.
<u>X</u> Pitt Meadows	25R(RHC) 07R(RHC) 18(RHC)	Six-foot eight-pound radio controlled model aircraft 734' ASL and below, 5 miles SSW, at Cloverdale, 49°08'N, 122°45'W, hazardous to practice forced landing approaches. Rwy 18-36 may be closed during wet season. Circuit height for Rwy 07R and 25R is 600' ASL. See page 71 for Parachuting Area.
<u>X</u> Port Hardy		Gutter 6 inches deep 36 inches wide north edge, Rwy 10-28. Grass areas unsafe.
Powell River	09(RHC)	Power line, trees, hill and mountains within 2 miles of airport.
<u>X</u> Prince George		Parachuting from 11,000' ASL, 11 SW at 53°47'N, 122°56'W, daylight hours. Call Tower. Parachuting from 5000' ASL, 15½ NM NE of Prince George Airport, daylight hours.
Quesnel	12(RHC)	Parachuting from 9,200' ASL, 7 W at 53°05'N, 122°40'W, daylight hours from 2300Z Mon. -Fri.; 1700Z on weekends.

DESCRIPTION AND REFERENCE

BRITISH COLUMBIA (Cont'd)

<u>X</u> Vancouver Int'l	12(RHC) 08(RHC)	No ab initio flight training permitted. No take-offs or landings on taxiway connecting Rwy 11 and 20. For Special VFR procedures see page 15. Avoid flying over Reifel Island Bird Sanctuary 5 miles South at low altitude all seasons. Continuous transcribed weather broadcast on 266 kHz.
Vanderhoof		Parachuting from 7400' ASL, 5 NM S of Vanderhoof Airport, daylight hours.
Vernon		Parachuting from 15,000' ASL 6.5 E at 50°15'N, 119°10'20"W, daylight hours from 2300Z on weekends and holidays. Mountainous terrain surrounds airport.
<u>X</u> Victoria Int'l	20(RHC) 31(RHC)	Proximity of mountains requires extreme caution in poor visibility at night.

ALBERTA

<u>X</u> Calgary Int'l	34(RHC) 25(RHC)	Avoid populated areas below circuit height 4550' ASL, except on T/O and landing. Rwy 07-25 restricted to aircraft under 108,000 lbs. gross take-off weight.
Carseland (Barlow's Airstrip)		Parachuting from 15,000' ASL, 3N at 50°53'45"N, 113°27'28"W. Call Calgary Terminal.
<u>X</u> Cold Lake (M)		Day and night operations within 60 NM. Pilots flying VFR should avoid this area unless they contact Tower on 121.5 or 126.2 and listen out on assigned frequency. CYR 204 adjacent. Power line 3000' from threshold Rwy 21. For IFR enroute procedures see page 19. Operations are carried out below 1000' AGL within 200 NM.
Drumheller	16(RHC)	
<u>X</u> Edmonton Industrial	21(RHC) 29(RHC) 34(RHC)	For use restrictions see page 19.
<u>X</u> Edmonton Int'l		Special Procedures see page 19.
Edson	07(RHC)	
<u>X</u> Nmao (M)	20(RHC) 29(RHC)	Parachuting 5.5 ENE at 53°42'N, 113°20'W, from 15,000' ASL, daylight hours. Call Tower. See page 19.
Red Deer Industrial	Gliders and Tow-planes right hand circuits	Gliders and Tow-planes T/O and land right hand rwys. All other aircraft avoid area adjacent to right side of rwys in use, 2000' AGL and below; T/O and land left hand rwys. Call Penhold Radio.
Ponoka	16(RHC)	
Shepard		Emergency only. Old runways used for automobile racing.
<u>X</u> Springbank	16 and 25 (RHC)	

DESCRIPTION AND REFERENCE

ALBERTA (Cont'd)

Suffield (M)		Civil aircraft prohibited.
Vulcan	23(RHC)	
Wainwright (M)	30(RHC)	Danger area 1.3 NM to the west. Civil aircraft prohibited.
Westlock		Parachuting onto airport from 15,000' ASL. Call Edmonton Centre.

SASKATCHEWAN

<u>X</u> Moose Jaw (M)	28R(RHC) 10R(RHC)	Day and night operations within Terminal Control (56 NM) and Student Jet Training Areas. Pilots flying VFR should avoid these areas unless they contact Tower on 121.5, 126.2, 236.6 or 243.0 or Terminal Control on 227.6 and listen out on assigned frequency. See page 23.
<u>X</u> Regina	07(RHC) 12(RHC)	
<u>X</u> Saskatoon	14(RHC) 26(RHC)	
Shaunavon	20(RHC) 30(RHC)	

MANITOBA

<u>X</u> Brandon	20, 26, 32(RHC)	
Churchill		Rocket propelled vehicles will be launched intermittently throughout the year 9E of airport. Class I NOTAM issued at least 24 hours in advance will indicate area of impact after possible 30 minute flight to 600,000 feet. Area of impact extends inland south of airport to approx. 94°W and 57°N with remainder of area over Hudson Bay Area as depicted on charts. Pilots should contact Churchill Aeradio or Winnipeg ATC Centre prior to entering this airspace. See page 66.
Gimli		CLOSED
Portage (M)	12R, 19 (RHC) 26, 30R (RHC)	
Selkirk		Parachuting from 9500' ASL, 5 NW, at Clandeboyne 50°14'N, 96°55'W, daylight hours.
<u>X</u> St. Andrews	30(RHC) 36(RHC) 04(RHC)	Control Zone 4 NM radius, capped at 2000' ASL. Circuit height 1600' ASL. Corridor from Winnipeg capped at 2000' ASL. Avoid practice flying area 5000' ASL and below to NE. See page 24.

DESCRIPTION AND REFERENCE

MANITOBA (Cont'd)

<u>X</u> Winnipeg Int'l	13(RHC) 18(RHC) 25(RHC)	Control zone 9 NM radius capped at 5000' ASL. Circuit height 2000' ASL. Military flat break circuits not permitted. Avoid practice flying area 5000' ASL and below 5 NE. For special procedures see page 24. <u>Niverville</u> - extensive glider flying 21 NM S of Winnipeg International at 49°33'N, 97°06'W, 9500' ASL and below, 1 April to 1 December. <u>Pigeon River</u> - extensive glider flying 18 NM WNW of Winnipeg International at 49°58'N, 97°41'W, 9500' ASL and below, 1 April to 1 December.
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ONTARIO

Arnprior		Private heliport. Not to be used by aeroplanes.
Baldwin		Parachuting from 7500' ASL in rectangular area extending from Jackson Point 8 miles South and 4 miles East.
Barrie		Parachuting from 7500' ASL, 7 SE at Stroud 44°21'N, 79°39'W. Large X displayed when jumps in progress.
Brampton	14(RHC)	
Brantford	Gliders and Tow-planes right hand circuits	Gliders and tow-planes T/O and land right hand rwy. Other aircraft avoid area adjacent to right side of runway in use, 2000' AGL and below; T/O and land left hand rwy.
Borden (M)	05(RHC) 36(RHC)	Restricted to VFR daylight use only. Pilots are required to give 24 hours notice in advance of their arrival. Servicing hours of operation 1200Z to 2030Z Mon. - Fri. Tower and VHF/DF facilities have been decommissioned and lighting has been removed from service. Jet aircraft landings are not recommended.
<u>X</u> Buttonville	21(RHC)	Rwys 14-32 unlicensed. Airport unlicensed for jet aircraft. (Night Only - 21)
<u>X</u> Downsview (M)	27 (RHC) 33 (RHC)	
Goderich	04(RHC) 33(RHC)	
<u>X</u> Hamilton		
Kingston		Grass areas soft when wet. Parachuting onto airport daylight hours.
<u>X</u> London	32 and 08 (RHC)	
Maple	14(RHC) 23(RHC)	Night flying rwys 05-23 only.
Mountain View (M)		Day and night operations within 35 NM of Trenton Aerodrome. Pilots flying VFR should avoid this area unless they contact Trenton Tower on 126.2 or 121.9 or Trenton Terminal Control on 121.2 or 324.3 and listen out on assigned frequency. Two-way radio required.

DESCRIPTION AND REFERENCE

ONTARIO (Cont'd)

Mount Albert		Parachuting from 9500' ASL, daylight hours. Large cross or X displayed when jumps in progress.
<u>X</u> North Bay	26(RHC)	Climb corridor radial 325° of TACAN, 12 NM to 37 NM from TACAN, 3000' ASL to FL 230. Pilots must obtain prior approval from Terminal Area Control to enter associated airspace envelope. For typical diagram see page 42.
<u>X</u> Oshawa	22, 26 and 30 (RHC)	
<u>X</u> Ottawa Int'l	07(RHC) 14(RHC) 22(RHC)	Circuit height 1500' ASL. For Noise Abatement Procedures see page 29. Severe turbulence to 900' ASL over wind tunnel exhaust stack $\frac{1}{2}$ mile ENE Airport Terminal Building.
Thunder Bay	25(RHC)	
Timmins		Open mine blasting 8 miles north to 2000' ASL.
<u>X</u> Toronto Int'l	14(RHC) 23L(RHC) 23R(RHC) 28(RHC)	Technical stops for turbo-jet aircraft restricted to certain hours, see page 30. Noise abatement procedures see page 30. Charter arrivals restricted, see page 29. Extended terminal Control Service for VFR aircraft, see page 31. Continuous transcribed weather broadcast on 368 kHz. Special VFR not approved except for helicopters. No ab initio flight training permitted.
<u>X</u> Toronto Island	06(RHC) 08(RHC) 15(RHC)	Tall building 1134' ASL 1.25 miles NE. Night flying rwys 08-26 only. Bird hazards estimated 5000 gulls and 5000 terns in vicinity. Numerous tall buildings adjacent on Toronto Waterfront.
<u>X</u> Trenton (M)	06(RHC)	
<u>X</u> Waterloo-Wellington		Parachuting from 9000' ASL, 3 NM NE at 43°27'N, 80°23'W, daylight hours.
Wawa		Mine blasting 7.5 NM north to 5000' ASL. (within 4 NM radius of 48°08'N, 84°43'W).
<u>X</u> Windsor		All aircraft between 2600' and 4000' ASL above the Control Zone should contact Detroit Metro Approach on 125.15 or 123.7 for radar advisory service. Highway traffic 600' from threshold rwy 30.

QUEBEC

<u>X</u> Bagotville (M)	11(RHC) 18(RHC)	Climb corridor 330° radial of TACAN, 5 NM to 30 NM from TACAN, 3000' ASL to FL 250. Pilots must obtain prior approval from Terminal Control to enter associated airspace envelope. For typical diagram see page 42. Day and night operations within 52 mile radius. Pilots flying VFR should avoid this area unless they contact Tower on 121.5 or 126.2 or Terminal Control on 123.7 and listen out on assigned frequency. Operations are carried out below 1000' AGL within 150 NM. High speed jet aircraft carry out air fighting VFR and 1000' on top from 3000' AGL to FL 450, daylight hours Mon. - Fri. over the area between meridians 70°W and 71°W from boundary of Bagotville Terminal Control north to latitude 49°50'N. See page 61.
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DESCRIPTION AND REFERENCE

QUEBEC (Cont'd)

<u>X</u> Cartierville		Closed to all traffic except essential Canadair operations and necessary military flights.
Fort Chimo		To avoid harassing confined Musk-oxen, pilots should not fly below 4,000 feet within a radius of 2NM of old Fort Chimo, P.Q. (58°09'N, 68°18'W) 5 miles northeast of Fort Chimo Airport.
Gagnon		Mine blasting 6.5 miles south to 5000' ASL.
La Macaza	21(RHC)	All flight manoeuvring west of airport.
<u>X</u> Montreal Int'l	06R(RHC) 06L(RHC) 10(RHC)	Turbo-jet aircraft restricted to certain hours, see page 36. Noise abatement procedures, see page 36. No ab initio flight training permitted. Continuous transcribed weather broadcast on 248 kHz. VFR flight procedures, see page 39.
St. Antoine des Laurentides		Parachuting from 6000' ASL, 2 mile radius, daylight hours, call Montreal Terminal.
<u>X</u> St. Hubert	06R(RHC) 24R(RHC)	Sport aviation and training areas, see page 40.
St. Jerome		Parachuting from 6000' ASL, 3 mile radius, daylight hours.
Trois Rivières		CYR 606 7 miles south. Pilots must remain well clear of Lake St. Peter.
<u>X</u> Val d'Or (M)		Climb corridor 030° radial of TACAN, 5 NM to 30 NM from TACAN, 3000' ASL to FL 250. Pilots must obtain prior approval from Terminal Control to enter associated airspace envelope. For typical diagram see page 42.

NEW BRUNSWICK

<u>X</u> Chatham (M)	09(RHC)	Day and night operations within 60 NM radius. Pilots flying VFR should avoid this area unless they contact Tower on 121.5 or 126.2 or 236.6 or Terminal Control on 123.7 or 346.9 and listen out on assigned frequency. Climb corridor 275° radial of TACAN, 1 NM to 26 NM from TACAN, 2000' ASL to FL 250. Pilots must obtain prior approval from Terminal Control to enter associated airspace envelope. NORDO aircraft should also avoid jet approach sector east of aerodrome. For typical diagram with jet approach sector shown see page 42.
Douglstown		For special procedures see page 42.

NOVA SCOTIA

<u>X</u> Greenwood (M)		
<u>X</u> Halifax Int'l		
<u>X</u> Shearwater (M)		
Stanley		Parachuting from 7500' ASL, 2 mile radius, daylight hours. Call Halifax Tower.
Sydney		Parachuting from 7500' ASL, 10 S at Catalogne 46°N, 60° W, daylight hours. Call Tower. Parachuting from 7500' ASL, 10 NW at Sydney Mines 45°14'N, 60°16'W, daylight hours. Call Tower.

DESCRIPTION AND REFERENCE

NOVA SCOTIA (Cont'd)

Waterville Parachuting from 5000' ASL, 2 mile radius, daylight hours.
Call Greenwood Tower.

PRINCE EDWARD ISLAND

X Summerside (M) Parachuting from 9000' ASL daylight hours. Call Summer-
side Tower.

NEWFOUNDLAND - LABRADOR

X Argentia (M) Closed to Civil Traffic.

X Goose Climb corridor along extended centreline rwy 35, 5 NM to 30
NM from threshold rwy 17, 5000' ASL to FL 230. Pilots
must obtain prior approval from Terminal Control to enter
associated airspace envelope. For typical diagram see page 42.

Wabush Mine blasting 7 miles NW up to 5500' ASL.

NORTHWEST TERRITORIES

Cambridge Bay Limited facilities. Prior arrangement with Area Administrator,
Government of N.W.T. Cambridge Bay, N.W.T., see page 45.
Re cable crossing, see page 72.

Hay River 12(RHC)
21(RHC)

Resolute Prior permission required from Regional Director, Ministry
of Transport, Winnipeg. Advance notice of meteorological
briefing services also required. See page 47.

YUKON

X Whitehorse 31L(RHC) High terrain to the West.
31R(RHC)

Sikanni Chief)	
Prophet River)	
Pine Lake)	Alaska Highway Emergency Flight Strips available May 1st
Squanga Lake)	to October 31st daylight hours only.
Pon Lake)	
Burwash Landing)	No winter maintenance Nov. 1st through April 30th.
Laird River)	

ABBOTSFORD, B. C.

When Abbotsford is in use by diverted regular scheduled aircraft, emergency equipment with trained personnel will be on duty 24 hours. It could take up to 2 hours from first notification of diversion before full crew and crash equipment is available. Trained volunteer crew will respond to any emergency during normal working hours 1500 GMT to 2330 GMT. On weekends and holidays a fire officer or trained volunteer will be on duty from 1500 GMT to 2330 GMT. After normal working hours response is subject to call out of off duty personnel.

DOG CREEK, B. C.

In order to prevent the extinction of the California Bighorn Sheep, the Department of Recreation and Conservation, Fish and Game Branch, Victoria, B.C. has placed a herd of these animals in an area near the junction of the Chilcotin and Fraser Rivers.

It has been reported that low flying aircraft are harassing this herd. This action could result in serious consequences which might lead to the eventual extinction of these animals.

In the circumstances, all pilots should avoid flying over the area described as follows at any altitude below 2,000 feet above ground level:

that area bounded by a line commencing at Dog Creek aerodrome latitude 51°38'N; longitude 122°15'W; thence in a north westerly direction to latitude 51°54'N; longitude 123°03'W; thence easterly along the Chilcotin highway to the Fraser River bridge; thence south to the point of commencement.

KAMLOOPS, B. C.

RADIO PROCEDURES - When Kamloops Tower is not in operation, contact Kamloops Radio on 122.2 or 126.7 and continue to monitor one of these frequencies. Large aircraft compelled to make straight-in approaches are requested to call 5 miles out on final and advise intentions.

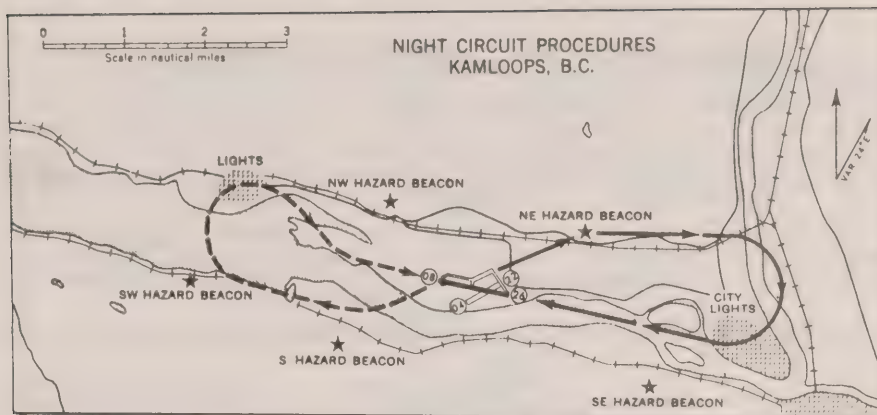
SPECIAL PROCEDURES - Due to extensive landplane, seaplane and helicopter traffic, in the interest of flight safety, strict adherence to the procedures outlined below is recommended.

DAY

- (a) Seaplane arrivals are to conform to the land airport traffic pattern.
- (b) Seaplane departures are not to climb or turn North until well clear of the land airport circuit.

NIGHT

- (a) Only pilots familiar with the local terrain should use this airport during the hours of darkness.
- (b) Night operations are not authorized unless all 5 hazard beacons are operating and unless all 5 beacons are visible to pilots in the circuit.
- (c) Circuit procedures outlined below and as depicted in the accompanying sketch are to be followed:
 - (i) Runway 08 - Aircraft are to follow the solid line then the broken line.
 - (ii) Runway 26 - Aircraft are to follow the broken line then the solid line.
 - (iii) Turns must be completed within the perimeter of the lights at an altitude not below 2,130 feet ASL.



ENROUTE SPECIAL PROCEDURES

FRASER CANYON VHF COMMUNICATION SERVICE

Vancouver - Hope - Ashcroft - Kamloops - 100 Mile House

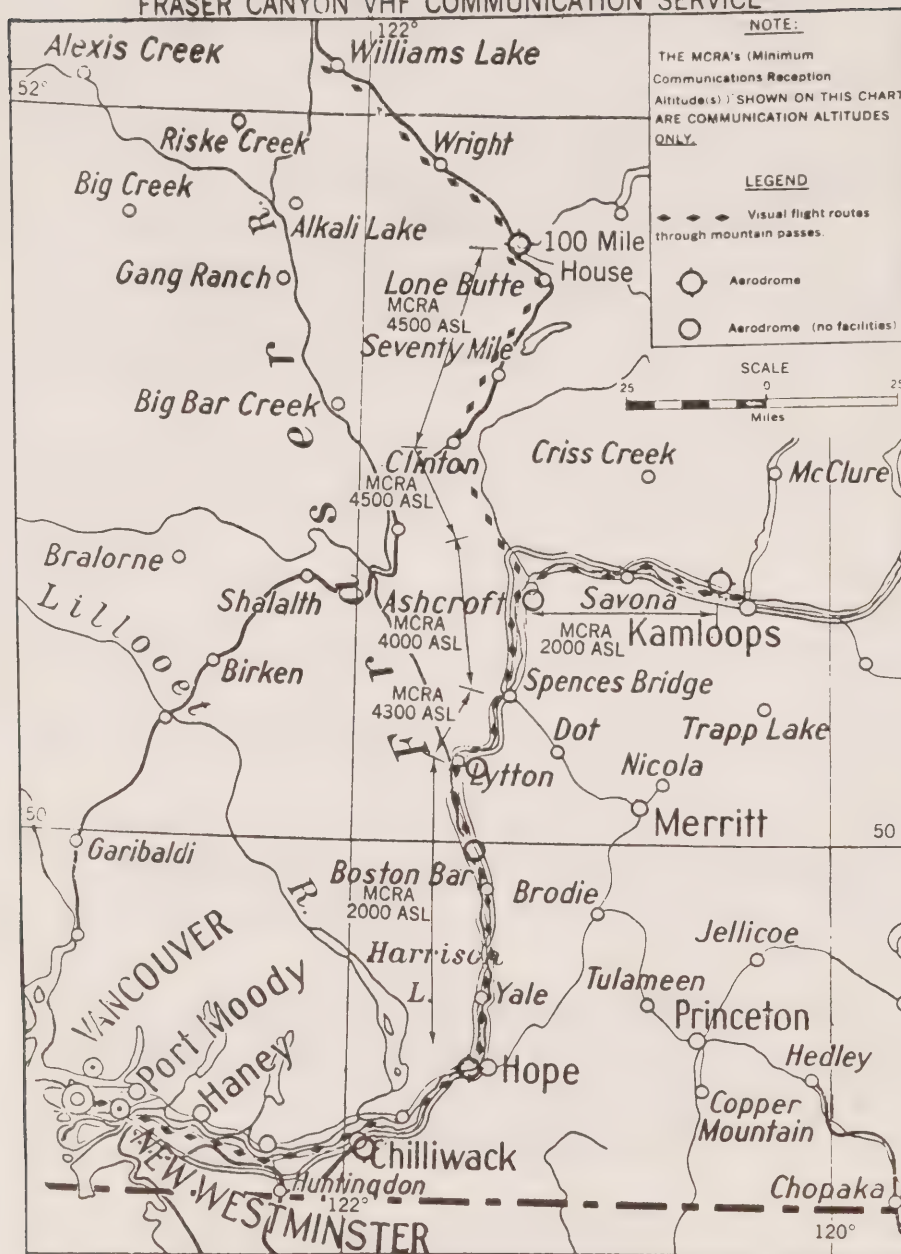
A VHF transmitter/receiver operating on 122.2 MHz and linked to the Kamloops Aeradio Station by landline has been installed at Boston Bar, B.C., to provide communications for aircraft operating VFR along the Fraser Canyon route between Hope, B.C. and 100 Mile House, B.C.

To obtain optimum advantage from this service, pilots are advised to abide by the following procedures:

- (a) Communications Procedure - Call Kamloops Radio on 122.2 MHz.
- (b) For reliable communication, pilots must fly the prescribed route at an altitude no less than the established MCRA (Minimum Communications Reception Altitude) as shown on the accompanying chart.
- (c) Pilots deviating from the prescribed flightway are to advise their alternate routing.
- (d) Pilots are requested to report northbound by Lytton or southbound by Hope giving enroute flight conditions if unusual or unforecast weather conditions are encountered.

For evaluation purposes, pilots are requested to comment on the operational results of the Reporting Service via radio to Kamloops or Abbotsford Aeradio or in writing to the Regional Director, Air Services, 739 West Hastings Street, Vancouver 112, B.C.

FRASER CANYON VHF COMMUNICATION SERVICE



SPECIAL PROCEDURES FOR VFR FLIGHT
VANCOUVER INTERNATIONAL AIRPORT AND VICINITY

General

Special procedures have been developed for the Vancouver positive control zone which supplement Air Navigation Order Series V, Number 21, the Positive Control Zone Order. In addition, procedures have been developed for VFR aircraft operating within the immediate vicinity of the PCZ. The object of these procedures is to minimize conflict between VFR and IFR aircraft operating within these areas. The airspace in the vicinity of the Vancouver International Airport has been organized by:

- (a) raising certain minimum IFR altitudes,
- (b) redesignating the Vancouver PCZ as a rectangle measuring 24 x 10 NM centered on Vancouver International Airport and extending from the surface to 12,500 feet ASL.

These procedures are to become effective on April 1, 1971, and will be evaluated over a trial period.

Flight Procedures - Vancouver Positive Control Zone

Reporting points and associated routes have been retained to facilitate VFR and Special VFR arrivals and departures to and from the Vancouver Airport. They are depicted on the chart as follows:

- (1) Point Grey - Point Grey shoreline route
- (2) Lions Gate Bridge - reporting point only
- (3) Second Narrows Bridge - reporting point only
- (4) New Westminster - North Arm route
- (5) Ladner - Freeway route
- (6) Westham - Steveston shoreline route
- (7) Sand Heads - Steveston shoreline route

Unless otherwise authorized by the tower, pilots of departing and arriving VFR aircraft are requested to remain at or below 1500 feet ASL within the confines of the respective VFR routes. The eastern boundary of the Steveston shoreline route of Lulu Island is marked with 13 international orange shore markers. Pilots are to remain West of these markers due to the 200 feet ASL CBU transmitting towers east of the markers at Steveston.

VFR Flight Procedures Outside the Positive Control Zone

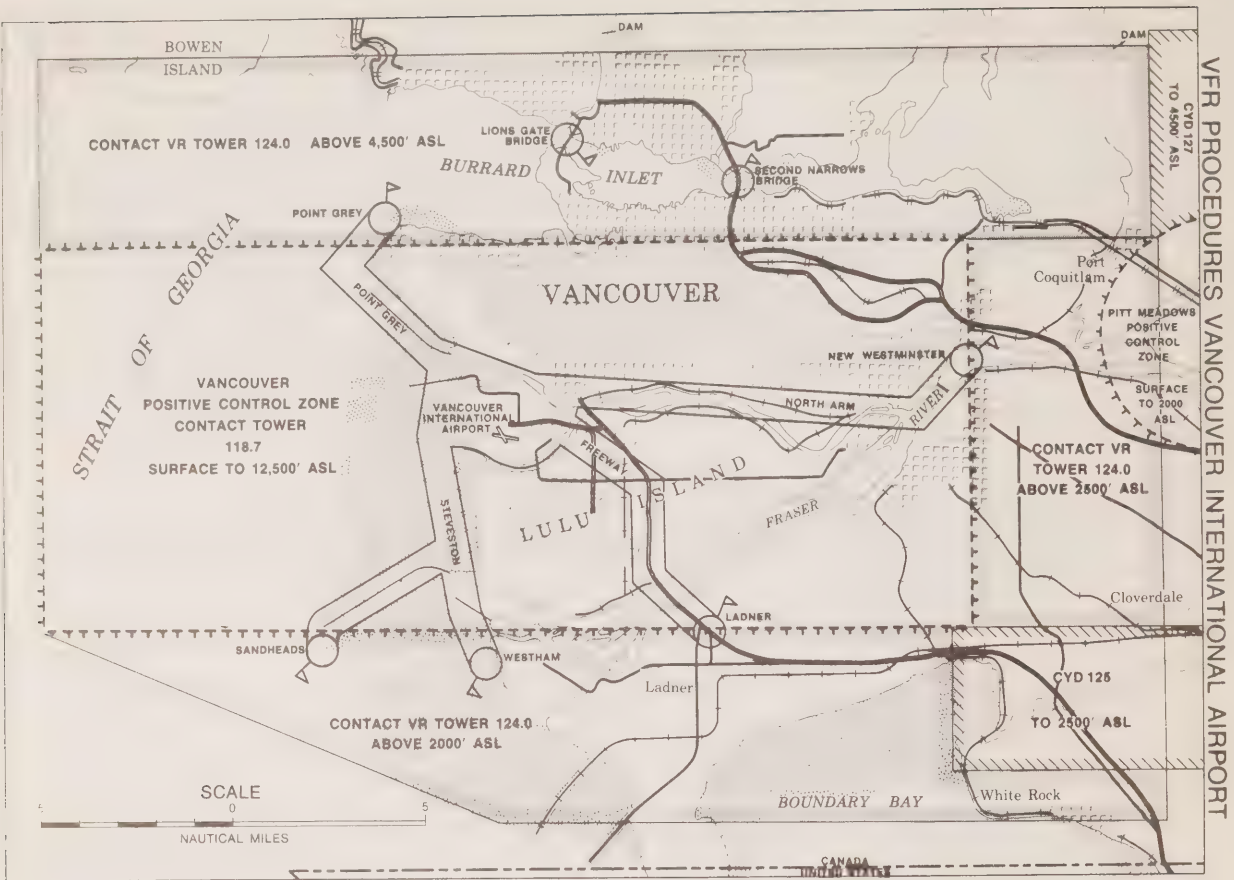
Three areas of potential traffic conflict exist around the perimeter of the PCZ where IFR aircraft reach minimum altitudes prior to final descent. All pilots are urged to be particularly alert when operating in these areas above the altitudes specified below.

To enable ATC to provide VFR pilots with information concerning possible conflicting IFR or VFR traffic, pilots of VFR aircraft are requested to contact Vancouver Tower on 124.0 MHz stating position, altitude, route and destination prior to operating:

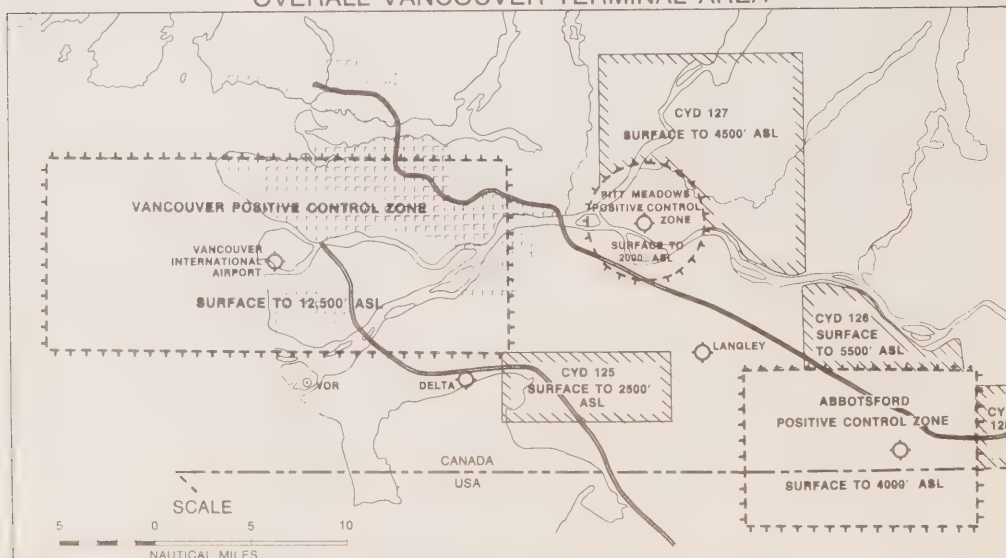
- (a) above 2000 feet ASL within the area 5 NM south of the zone
- (b) above 2500 feet ASL within the area 5 NM east of the zone, and
- (c) above 4500 feet ASL within the area 5 NM north of the zone.

NOTE 1: VFR aircraft in excess of a gross weight of 12,500 pounds or operating at speeds in excess of 160 knots should operate above the altitudes designated in (a) (b) and (c).

NOTE 2: These procedures are not to be interpreted as relieving pilots of their responsibility to see and avoid other traffic; to maintain appropriate terrain and obstruction clearance, or to remain in weather conditions equal to or better than the published VFR minima.



OVERALL VANCOUVER TERMINAL AREA



MINIMUM IFR ALTITUDES - AIRWAYS AND AIR ROUTES

Minimum enroute IFR altitudes have been established for all designated low altitude airways and air routes in Canada. The altitudes listed in the Designated Airspace Handbook published by the Ministry of Transport and available from the Department of Energy, Mines and Resources shall be the accepted minimum enroute IFR altitudes. The MEA is the lowest altitude to be considered for flight planning purposes.

The flight plan altitude shall be the nearest even or odd thousand foot level appropriate to the direction of flight, at or above the minimum enroute IFR altitude. Unless the minimum enroute IFR altitude is one which is appropriate to the direction of flight, it is not to be used in the flight plan.

As different minimum enroute IFR altitudes may be listed for adjoining segments of airways or air routes, aircraft are in all cases to cross the specified fix at which a change in minimum enroute IFR altitude takes place at the higher altitude.

Where the minimum obstruction clearance altitude is lower than the minimum enroute IFR altitude, the minimum obstruction clearance altitude will also be listed in the Designated Airspace Handbook. Where the minimum enroute IFR altitude and the minimum obstruction clearance altitude are the same, only the minimum enroute IFR altitude will be listed.

The minimum obstruction clearance altitude will provide, under conditions of standard temperature and pressure, 1000 feet clearance above all obstacles lying within the lateral limits of the airway or air route between specified fixes.

The minimum enroute IFR altitude or the minimum obstruction clearance altitude whichever is the lower, is the lowest altitude above sea level for that portion of the route at which an IFR flight may be conducted under any circumstances. This altitude is provided in order that pilots will be readily aware of the lowest safe altitude which may be used in an emergency, such as malfunctioning engine or icing conditions.

When the minimum reception altitude for a specific VHF/UHF is higher than the listed minimum enroute IFR altitude for that portion of the airway on which the intersection is located, the minimum reception altitude for the intersection will also be listed in the Designated Airspace Handbook.

MINIMUM IFR ALTITUDES - DESIGNATED MOUNTAINOUS REGIONS

The Designated Airspace Handbook, published by this Ministry, contains a list of areas within which special minimum altitudes apply. These areas are the Designated Mountainous Regions of Canada.

An aircraft, when operated in accordance with the Instrument Flight Rules within Designated Mountainous Regions, but outside of designated airways and air routes, shall be flown at an altitude at least 2000 feet above the highest obstacle within 10 miles of the aircraft in flight.

As Minimum Enroute IFR Altitudes have been established for designated airways and air routes, such minimum altitudes shall be applied when flying in accordance with the Instrument Flight Rules along airways or air routes within Designated Mountainous Regions, except that aircraft should be operated at an altitude which is at least 1000 feet higher than the Minimum Enroute IFR altitude, when there are large variations in temperature and/or pressure.

OPERATING PROCEDURES IN UNCONTROLLED AIRSPACE

When aircraft are manoeuvring in the vicinity of uncontrolled airports, or cruising in uncontrolled airspace, the lack of information on the movements of other aircraft operating in close proximity may occasion a potential hazard to all concerned.

To alleviate this situation, all pilots are advised that:

- (a) When operating in uncontrolled airspace, they should continuously monitor the frequency 122.2 MHz, whenever practicable.
- (b) Immediately before changing altitude in uncontrolled airspace, they should broadcast their intentions on 122.2 MHz whenever practicable. Such broadcasts should include the following:
 - (1) Last known position.
 - (2) Estimated next position.
 - (3) Present altitude or flight level.
 - (4) Intention (climb/descent).
 - (5) Planned altitude or flight level.
- (c) When making an IFR descent to, or departure from, any airport at which a MOT Aeradio Station is located, (except when operating within controlled airspace), they should request traffic information from that station, 122.2 MHz being used for such communications whenever practicable. If there is no known traffic in the vicinity, the aeradio operator will advise "no local traffic reported". Otherwise, the operator will provide relevant traffic details in his reply to the aircraft. (such airports are indicated in Canada Air Pilot).
- (d) When operating within 50 miles of aerodromes at which no control tower is established but at which an aeradio station is located, all pilots should establish contact with the appropriate Aeradio Station, preferably on 122.2 MHz, and provide details of their flight plan, last known position, track and altitude.

This Ministry has published instrument approach procedures to a number of airports at which air traffic control and flight advisory services are unavailable. All pilots conducting an IFR flight in the vicinity of such airports are advised that they should "broadcast" their intentions on 122.2 MHz when 15 minutes flying time from the station, (except when operating in controlled airspace), and if applicable broadcast their intentions immediately prior to commencing descent to or taking off from such an airport. (such airports are indicated in Canada Air Pilot).

Where applicable the "broadcast" should contain details of:

- (a) Estimated time of arrival or departure.
- (b) Cruising altitude or flight level.
- (c) Type of descent planned.
- (d) Time of departure.
- (e) Track of climb-out.

When passing position reports to MOT Aeradio Stations, or other ground stations, pilots operating outside of controlled airspace should, whenever practicable, transmit such reports on 122.2 MHz. If it is necessary to use another frequency to establish communications with any ground station, all position reports should also be broadcast on 122.2 MHz for the information of other traffic operating in the vicinity. Such "broadcasts" should contain details of:

- (a) Present position.
- (b) Track.
- (c) Altitude.
- (d) Altimeter setting in use.
- (e) Next position and estimated time of arrival.

Cruising Altitudes

All pilots are reminded of the terms of Air Navigation Order, Series V, No. 2, which specifies the Cruising Altitudes and Flight Levels to be used when operations are being conducted in uncontrolled airspace.

AERODROME TRAFFIC ZONES

To minimize the possibility of conflict between VFR and IFR operations at uncontrolled aerodromes and airports for which instrument approach procedures have been approved, "Aerodrome Traffic Zones", with a 5 nautical mile radius from the centre of the aerodrome, have been designated. (Aerodrome Traffic Zones are listed in the Designated Airspace Handbook and are depicted on aeronautical charts).

"Aerodrome Traffic Zones" are defined in Part I, Section 101 of the Air Regulations. The weather minima for VFR flight within these zones are as published in Air Navigation Order, Series V, No. 3, viz:

- (a) Ground visibility shall be 3 miles.
- (b) Distance of an aircraft from cloud shall be 500 feet vertically and 1 mile horizontally.
- (c) Distance of an aircraft from ground or water shall be 500 feet vertically.

COLD LAKE, ALBERTA

IFR OPERATIONS - Due to extensive military air operations within the Cold Lake Terminal Control Area and the Cold Lake Air Weapons Range (CYR204), operation of civil IFR aircraft through these areas cannot normally be approved and must frequently be rerouted by Air Traffic Control.

It is recommended that pilots plan flight along routes which will by-pass these areas. Unless designated airways are used, pilots should select tracks which are separated from these areas by at least 45 NM for flight above Flight Level 230 or clear of the areas for flight at Flight Level 230 or below.

EDMONTON INTERNATIONAL, EDMONTON INDUSTRIAL AIRPORTS AND NAMAQ AERODROME, ALBERTA

General

The close proximity of Edmonton International, Edmonton Industrial Airports and Namaq aerodrome, and an increase in VFR and IFR operations with wide variation in aircraft performance characteristics, has necessitated the introduction of special procedures as an interim to the implementation of Extended Terminal Control Service. These procedures become effective immediately.

Flight Procedures

The procedures outlined in ANO, Series V, No. 21 entitled "Positive Control Zone Order" apply to the Edmonton International, Edmonton Industrial and Namaq positive control zones. These zones are defined in the Designated Airspace Handbook. Pilots of VFR aircraft intending to penetrate these zones are requested to establish communications with the appropriate tower at least 15 miles from the respective airport. Upon initial contact pilots

should advise the tower of their geographical position in relation to a prominent land mark, altitude and destination. Aircraft enroute to Edmonton Industrial from the North or South should contact the Edmonton International or Namao Control Tower whichever is appropriate if operating within 15 miles of either airport. The above procedures are intended to assist ATC in providing VFR pilots with information concerning possible conflicting IFR or VFR traffic.

Sport Aviation and Training Areas

Two areas have been established and are depicted on the accompanying chart. The Spruce Grove area extends upwards from the surface of the earth to and including 6000 feet ASL. The Cooking Lake area extends upwards from the surface of the earth to and including 5000 feet ASL.

IFR aircraft will routinely be cleared above the caps of these areas. It is recommended that enroute VFR aircraft avoid these areas if practicable.

VFR Routes

VFR routes have been established between the Edmonton Industrial Positive Control Zone and the Sport Aviation and Training Areas. These routes are capped at 4000 feet ASL and are depicted on the accompanying chart.

To Spruce Grove - remain North of Highway No. 16
From Spruce Grove - remain South of Highway No. 16
To Cooking Lake - proceed direct Sherwood Park cloverleaf direct Cooking Lake Airport
From Cooking Lake - return direct Sherwood Park Town.

IFR Arrivals

To minimize possibilities of conflict between IFR and VFR aircraft, arriving IFR aircraft will not normally be cleared for descent below 5000 feet ASL until they are established in the final approach area and are within 12 nautical miles of the Edmonton International and Edmonton Industrial airports, or within 15 nautical miles of runway 11-29 at Namao aerodrome.

EDMONTON INDUSTRIAL AIRPORT

Traffic Circuits - See tabulation. For additional Special Procedures concerning the use of Edmonton Industrial Airport, see class 1 NOTAM.

Weight Restriction

The use of this airport is restricted to aircraft not exceeding 120,000 pounds maximum gross weight.

VFR Departure Routes

It is recommended that departing aircraft leaving the control zone use the following routes:

To the North - proceed direct to the Eastern boundary of the town of St. Albert

To the West - proceed direct via the North side of Highway No. 16 to abeam Winterburn

To the South - proceed direct to Quesnell Bridge

To the East - proceed direct to Sherwood Park cloverleaf.

Noise Abatement - Arrival and Departure Procedures

Runway 03-21 - restricted to daylight operations only.

Runway 16-34 - to be used during calm (no wind) conditions.

Runway 11 - aircraft gross weight for take-off restricted to 12,500 pounds.

Runway 29 - aircraft gross weight for landing restricted to 30,000 pounds between 2100 and 0700 hours MST.

Departing IFR aircraft all runways - climb to at least 3,200 feet ASL on runway heading before proceeding on course.

Simulated Instrument Approaches - Descent below published minimum is not permitted unless a full stop landing is intended. ILS missed approaches are to be commenced at the middle marker.

EDMONTON INTERNATIONAL AIRPORT

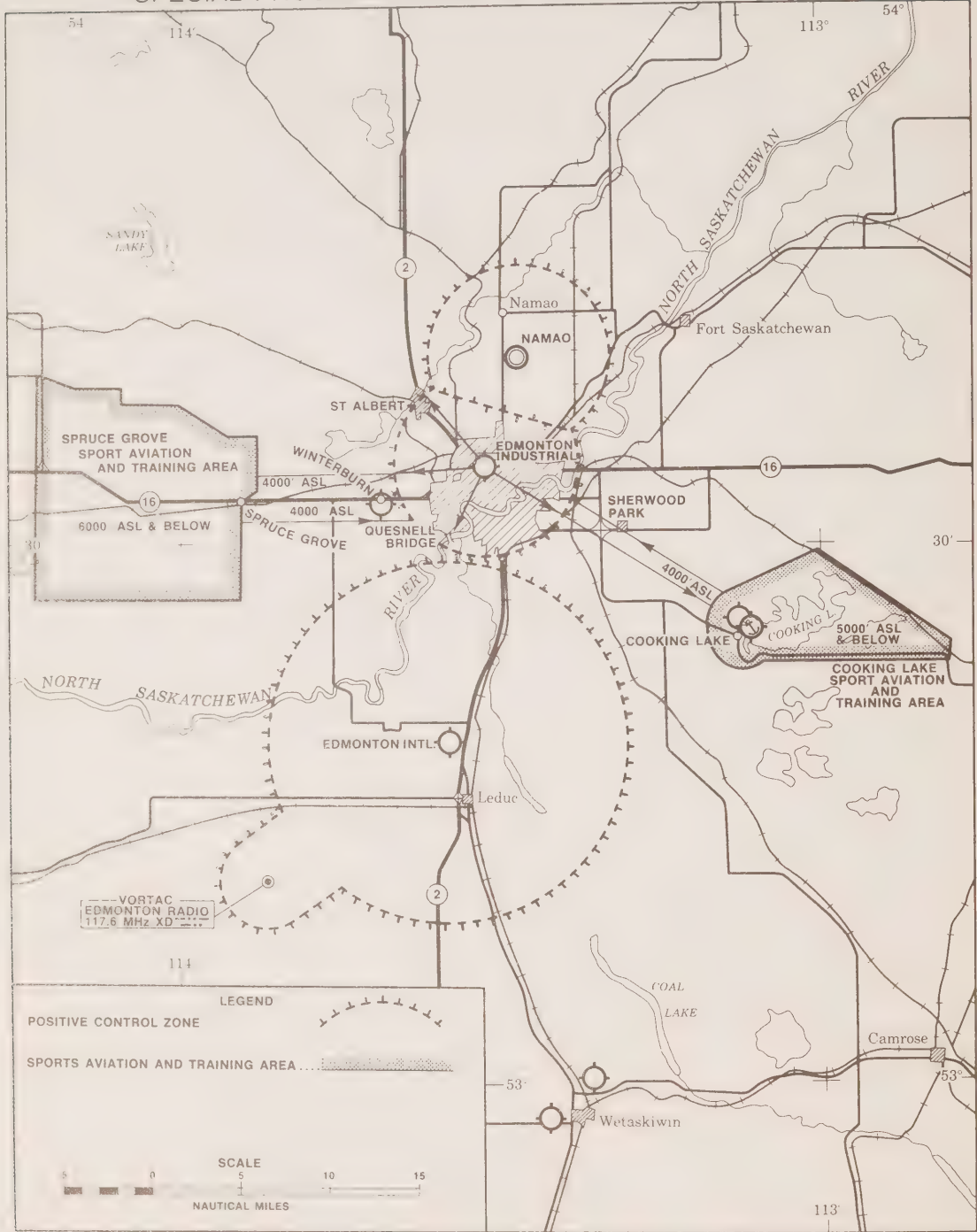
Noise Abatement Procedure

Aircraft departing Runway 11 are to climb to at least 3,200 feet ASL on runway heading before proceeding on course.

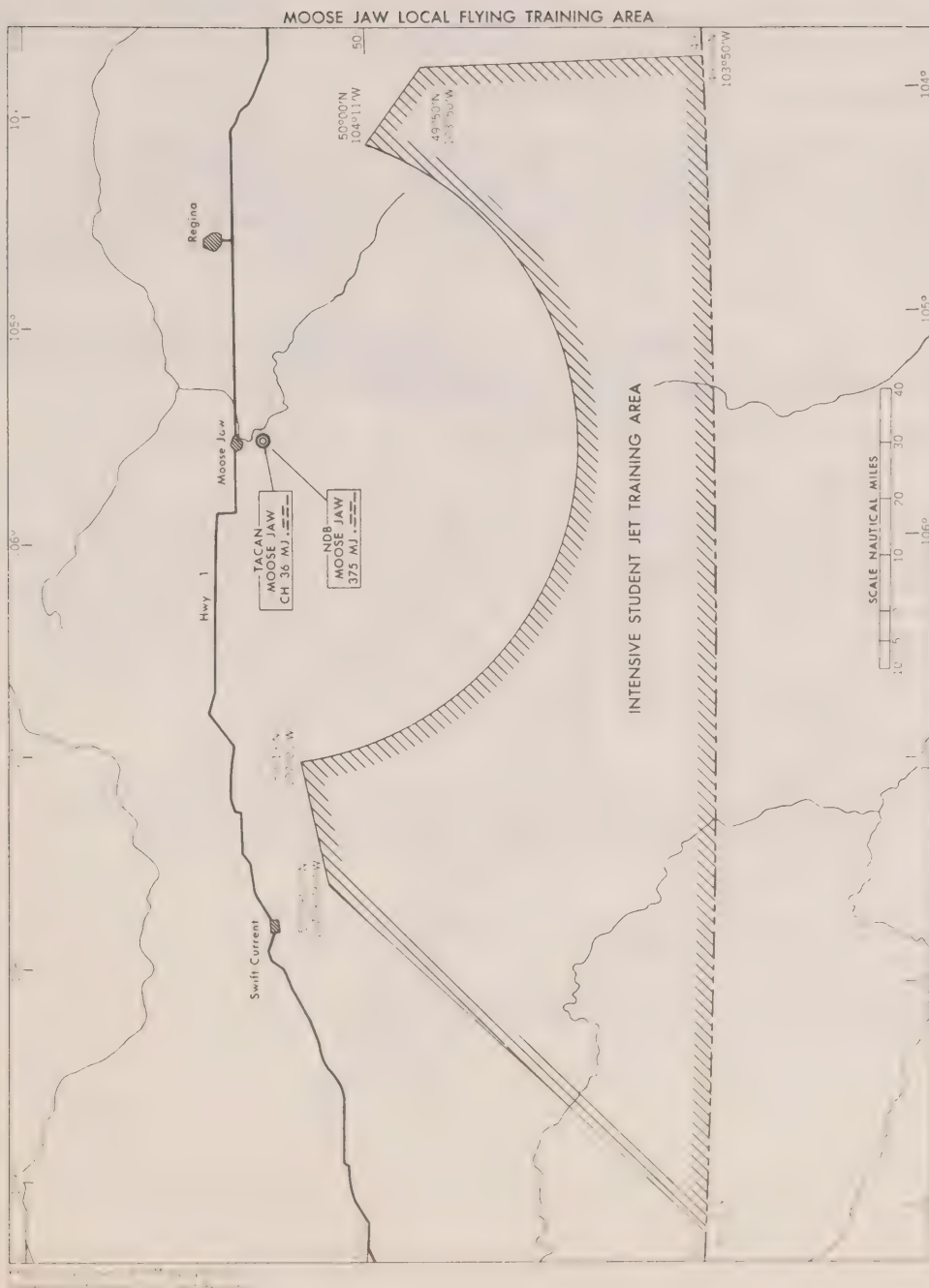
NAMAO AERODROME

Right-hand circuits are in effect for runways 20 and 29.

SPECIAL PROCEDURES-EDMONTON TERMINAL AREAS



MOOSE JAW, SASKATCHEWAN



WINNIPEG INTERNATIONAL AIRPORT, MANITOBA

FLIGHT PRECAUTIONS - VFR TRAFFIC - Extensive VFR traffic operates between Winnipeg International Airport and the St. Andrews Airport which is located 12 NM Northeast of the Winnipeg International Airport.

It is therefore strongly recommended that all pilots exercise extreme vigilance when operating in this area.

SPECIAL PROCEDURES - WINNIPEG AND ST. ANDREWS AIRPORT CONTROL ZONES

As a step toward the implementation of an Extended Control Service, the following procedures apply within the Winnipeg and St. Andrews Airport Control Zones.

WINNIPEG INTERNATIONAL AIRPORT CONTROL ZONE

Pilots must establish and maintain radio communication with Winnipeg Control Tower prior to operating within the Winnipeg Control Zone. The Winnipeg Control Zone is defined as that airspace extending upwards from the surface of the earth to and including 5,000 feet ASL within a radius of 9 nautical miles centred at the Winnipeg International Airport. Unless otherwise instructed by the Winnipeg Control Tower, the circuit height for aircraft approaching to land is 2,000 feet ASL.

ST. ANDREWS AIRPORT CONTROL ZONE

St. Andrews Control Zone is defined as that airspace extending upwards from the surface of the earth to and including 2,000 feet ASL within a radius of 4 nautical miles centred on the St. Andrews Airport excluding that airspace within the Winnipeg Control Zone.

FLIGHT CORRIDOR - WINNIPEG INTERNATIONAL - ST. ANDREWS AIRPORTS

In order to expedite traffic between the Winnipeg and St. Andrews Airports, a corridor extending two nautical miles on either side of highway No. 8 and capped at 2,000 feet ASL has been established. Pilots flying between these two airports should fly to the right of the highway and shall contact Winnipeg Tower when crossing the perimeter highway southbound, or St. Andrews Tower when crossing the perimeter highway northbound (see accompanying chart.) Aircraft taking off from Winnipeg International Airport runways 25, 31 or 36, wishing to use the corridor should request a right turn and maintain 1600 feet ASL until established on the right side of the centreline of the corridor. Aircraft flying over the St. Andrews Control Zone or operating within the Winnipeg Control Zone in the vicinity of the corridor, should not fly below 2,500 feet ASL.

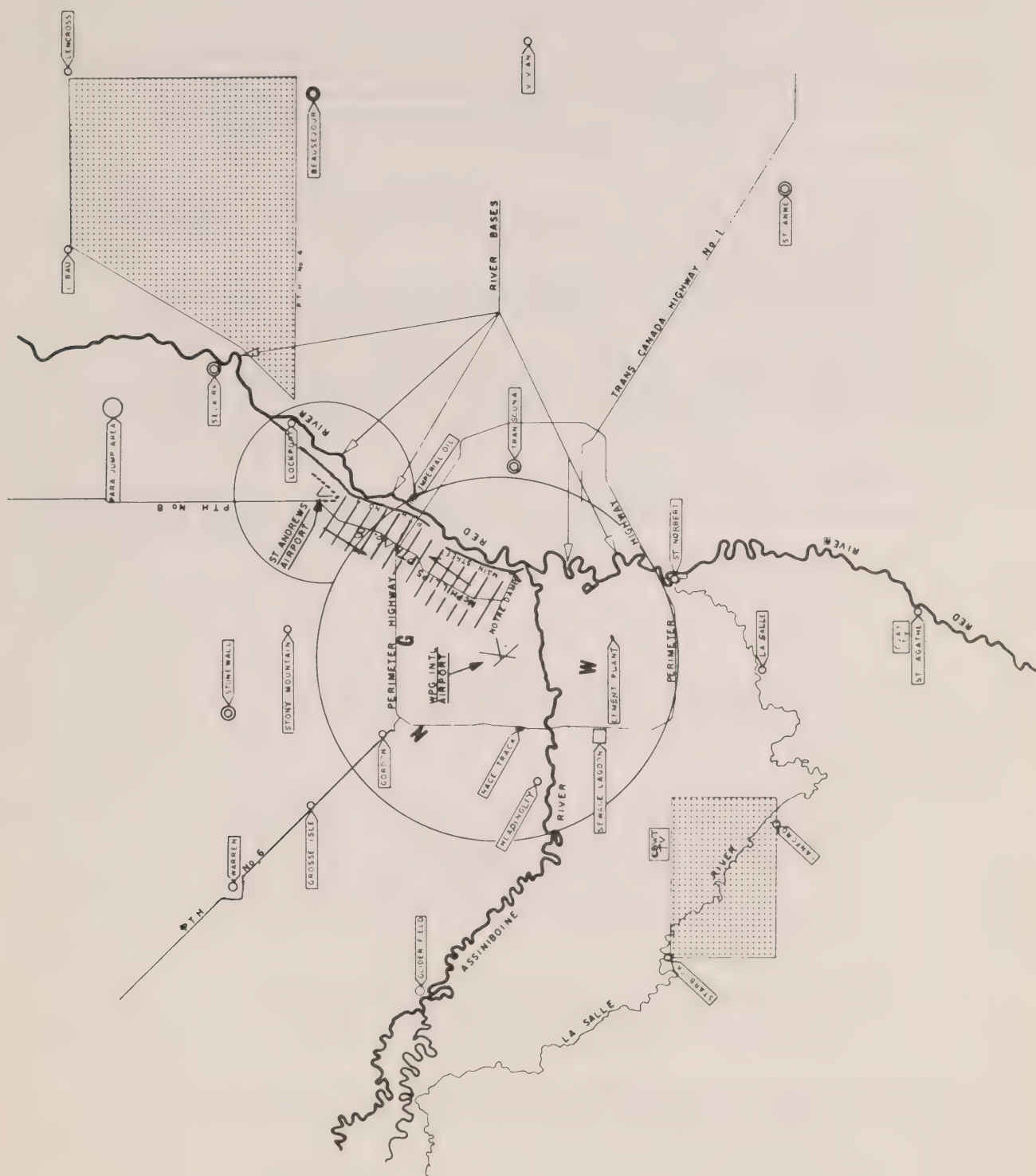
PRACTICE FLYING AREAS

Practice flying areas for light aircraft have been established and are depicted on the accompanying chart. These areas extend upwards from the surface of the earth to and including 5,000 feet ASL. It is recommended that other aircraft avoid these areas if practicable.

GENERAL

In order to reduce traffic crossing the Winnipeg International Airport, military flat break circuits shall no longer be approved.

Ab initio flying training is prohibited at Winnipeg International Airport.



NOISE ABATEMENT - ARRIVAL AND DEPARTURE PROCEDURES

This portion shall be applicable to all types of turbo-jet aircraft. It establishes specific minimum operating altitudes, and specific directions of flight to avoid, insofar as possible, the main residential areas surrounding the airport. Pilots of all other types of aircraft, although exempt from these specific procedures should apply good pilot technique for noise abatement.

All pilots shall refrain from practising circling procedure turns to runways 31 and 36.

Diligent application of these Noise Abatement procedures and recommended aircraft handling techniques during the take-off/climb and approach/landing manoeuvres will assist in reducing aircraft noise levels, not only at the nearest communities underlying the flightways, but also at residential areas farther away from the airport.

The procedure set forth below and illustrated on the accompanying chart should be followed unless otherwise instructed by Air Traffic Control:

Preferential Runways - Runways are designated in order of priority to divert as many take-offs and landings as possible, consistent with safety of operation, from flight over residential areas adjacent to the airport. Controllers will assign runways in the following order of preference whenever practicable:

- (a) Take-offs: 36, 31, 25, 18, 07, 13
- (b) Landings: 18, 13, 07, 36, 25, 31

Maximum effective wind components for use in selecting the preferential runway:

- (i) The maximum effective crosswind component for take-offs and landings should not exceed 15 knots.
- (ii) Downwind components up to 5 knots for take-offs and landings may be considered as calm air.
- (iii) Crosswind or downwind take-offs or landings, when the effective wind component is in excess of that specified above, shall only be made at the discretion of the pilot.

DEPARTURE PROCEDURES

- (a) (i) When weather conditions are not a precluding factor, the approved Noise Abatement climb techniques shall be used from all runways except 31 and 36 until reaching at least 3,000 feet AGL, i.e., the climb profile for each type of aircraft should be such as to give the best possible performance consistent with safety of operations and noise abatement. The initial power reduction should be made prior to crossing residential areas as determined either visually or by time calculation.
- (ii) Departing aircraft required to make a turn after take-off may commence such turn as soon as a safe manoeuvring speed is attained which normally will be at an altitude of not less than 600 feet above airport elevation.
- (b) (i) Runway 07 - Aircraft making a left turn out will be unrestricted while aircraft proceeding in all other directions shall climb to 3,000 feet ASL before proceeding on course or turning to assigned heading.
- (ii) Runway 13 - Aircraft shall climb on the runway heading to 3,000 feet ASL before proceeding on course or turning to assigned heading.

- (iii) Runway 18 - Aircraft shall climb on the runway heading to 3,000 feet ASL before proceeding on course or turning to assigned heading.
- (iv) Runway 25 - Aircraft making a right turn out will be unrestricted while aircraft proceeding in all other directions shall climb to 3,000 feet ASL before proceeding on course or turning to assigned heading.
- (v) Runways 31 and 36 - Unrestricted.

ARRIVAL PROCEDURES

- (a) When weather conditions permit, the minimum circuit height shall be 2,000 feet ASL. Aircraft approaching for a landing shall maintain circuit altitude and hold this altitude as long as possible before commencing final descent to the runway. During final approach every effort should be made to remain on or slightly above the approach slope angle provided by the ILS Glide Path, VASIS or PAR.
- (b) The use of thrust and the selection of flap and gear settings for different flight configurations of each type of aircraft should, consistent with safety of operations, be such as to give the best possible performance with respect to Noise Abatement during the approach-to-land manoeuvre.

NOTWITHSTANDING THE FOREGOING PROCEDURES, OR ANY INSTRUCTIONS RELATING THERETO ISSUED BY AIR TRAFFIC CONTROL, DECISIONS AFFECTING THE SAFE OPERATION OF THE AIRCRAFT SHALL REMAIN THE CAPTAIN'S RESPONSIBILITY.

ST. ANDREWS AIRPORT
12 N.M. FROM
WINNIPEG INTL. AIRPORT



OTTAWA INTERNATIONAL AIRPORT - NOISE ABATEMENT PROCEDURES

To minimize noise disturbances the following procedures are to be followed by all NON-TURBO-JET aircraft.

(Noise Abatement Procedures for TURBO-JET aircraft are contained in CANADA AIR PILOT.)

Unless otherwise authorized by Air Traffic Control, right hand circuits are in effect for runways 07, 14 and 22. Airport elevation 374 feet ASL. Circuit height 1,500 feet ASL.

DEPARTURE PROCEDURES

Runways 32 and 25 - When weather conditions permit, aircraft are to climb on runway heading to 1,500 feet ASL before initiating a turn unless otherwise authorized by Air Traffic Control.

Runway 22 - Departing aircraft must initiate a climbing turn at 1,000 feet ASL in order to remain clear of aircraft operating from runway 25.

ARRIVAL PROCEDURES - VFR

Runways 04, 14 and 17 - When weather conditions permit, aircraft are to maintain 1,500 feet ASL until established on final approach to the runway unless otherwise authorized by Air Traffic Control.

TRAINING FLIGHTS

All training flights intending to operate within the confines of the Ottawa Control Zone are restricted to the following:

1. permissible from 0815 to 2359 hours local time;
2. VFR training circuits will not be permitted on runways 14 and 32 when weather conditions necessitate that circuits be flown below 1,500 feet ASL; and
3. practice runway procedures to runway 14 are not permitted.

NOTWITHSTANDING THE FOREGOING PROCEDURES OR ANY INSTRUCTIONS RELATING THERETO ISSUED BY AIR TRAFFIC CONTROL, DECISIONS AFFECTING THE SAFE OPERATION OF THE AIRCRAFT SHALL REMAIN THE CAPTAIN'S RESPONSIBILITY.

TORONTO INTERNATIONAL AIRPORT - CHARTER FLIGHTS AND OTHER AIRCRAFT OPERATIONS REQUIRING THE USE OF INTERNATIONAL INSPECTION FACILITIES

Serious congestion occurs at Toronto International Airport, particularly during the summer months and on long holiday weekends, due to the large number of scheduled and charter flights operating during these periods.

Every effort must be made to schedule charter flights to arrive during the preferred period 0830 to 1330 hours local time. The congested traffic period between 1400 and 2100 hours local time should be avoided if at all possible. This applies most particularly to the months of June to October, and Fridays and Sundays during the whole year.

The Airport Manager is to be advised of all charter operations, including those of regular scheduled operators, as far in advance as possible. Two months prior notice is recommended.

TORONTO INTERNATIONAL AIRPORT, ONT. - NOISE ABATEMENT -
ARRIVAL AND DEPARTURE PROCEDURES

RESTRICTION - TURBO-JET AIRCRAFT

The use of Toronto International Airport by turbo-jet aircraft for technical stops or charter operations is not permitted between 2300 and 0700 hours local time.

The introduction of new scheduled flights using turbo-jet aircraft between the hours of midnight and 0700 hours local time is not permitted.

In order to reduce the level of noise and disturbance created by aircraft over residential areas located near the airport, it has been found necessary to introduce the procedures shown below. Strict application of these instructions by all aircraft captains during take-off and landing manoeuvres will assist in reducing aircraft noise in the vicinity of the airport.

PREFERENTIAL RUNWAYS

Subject to unusual wind or weather conditions, runways will be selected in accordance with the following factors:

- (i) the physical condition of the runway surface, i.e., dry, wet, ice covered, sanded and braking action;
- (ii) the effective crosswind component shall not exceed 15 knots;
- (iii) the effective downwind component shall not exceed 5 knots.

Whenever practicable, Air Traffic Control will assign runways in accordance with the following:

Calm Wind

PREFERENCE I

Arrival Runway	14
Departure Runways	23L, 23R, 28

PREFERENCE II

Arrival Runways	05R and 05L
Departure Runways	32, 05L and 05R

North Quadrantal Wind

PREFERENCE I

Arrival Runways	05R and 05L
Departure Runways	32, 05R and 05L

PREFERENCE II

Arrival Runway	32
Departure Runways	32, 05R and 05L

South Quadrantal Wind

PREFERENCE I

Arrival Runway	14
Departure Runways	23L, 23R and 14

PREFERENCE II

Arrival Runways	23L and 23R
Departure Runways	23L, 23R and 14

DEPARTURE PROCEDURES

Noise abatement climb procedures are not required at Toronto International Airport. Instead aircraft are required to climb on runway heading at their maximum allowable rate of climb in order to be at 3,000 feet ASL as soon as possible after take-off.

ARRIVAL PROCEDURES - VFR

The minimum circuit height shall be 2,500 feet ASL and all aircraft are to maintain this altitude as long as practicable before commencing final descent to the runway. During final approach every effort shall be made to remain on or slightly above the approach slope angle of the ILS, VASIS or PAR.

- (a) Turns onto final approach shall be completed not less than 6 NM from the runway. For runway 32, the turn onto final approach shall be completed over Lake Ontario prior to crossing the shoreline inbound.
- (b) The use of thrust and the selection of gear and flap settings shall, consistent with safety of operations, be such as to give the best possible performance with respect to noise abatement.

NOTWITHSTANDING THE FOREGOING PROCEDURES OR ANY INSTRUCTIONS RELATING THERETO ISSUED BY AIR TRAFFIC CONTROL, DECISIONS AFFECTING THE SAFE OPERATION OF THE AIRCRAFT SHALL REMAIN THE CAPTAIN'S RESPONSIBILITY.

EXTENDED TERMINAL CONTROL SERVICE TORONTO, ONTARIO

The objective of this service is to provide participating VFR flights with radar surveillance, traffic information and other services previously provided only to IFR flights, in order to more efficiently control the flow of IFR and VFR arrivals and departures at the two major airports (Toronto International and Downsview) and to integrate this traffic with other flights transiting the area.

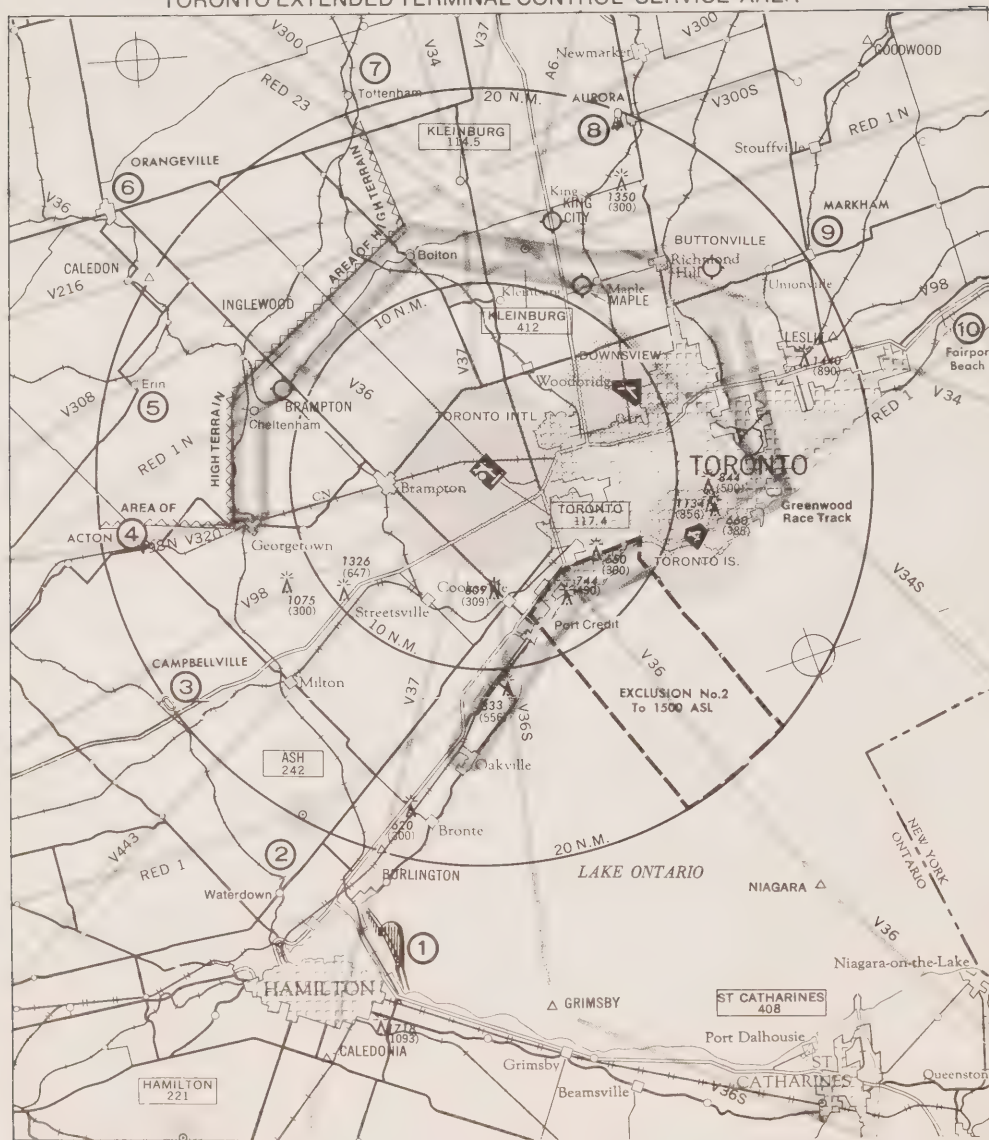
The Toronto Extended Terminal Control Service Area (ETCSA) is defined as that airspace contained within a 20 nautical mile radius of the Toronto International Airport from the surface up to 9500 feet ASL, with the following exclusions:

- (1) The airspace between the 10 and 20 nautical mile radius of the Toronto International Airport from the surface to 2000 feet ASL.
- (2) The VFR route between the western perimeter of the Toronto Island Control Zone to Port Credit and the airspace south of this route to the outer perimeter of the ETCSA, which is from the surface to 1500 feet ASL.

The control zones and corridors within the ETCSA are defined as follows:

- (a) Buttonville, Downsview and Toronto Island control zones - within a 3 NM radius of the centre of the respective airports and extending vertically to 2000 feet ASL.
- (b) Toronto International Control Zone - within a 5 NM radius of the centre of the Toronto International Airport and extending vertically to 2000 feet ASL.

TORONTO EXTENDED TERMINAL CONTROL SERVICE AREA



Produced by Surveys and Mapping Branch
Department of Energy, Mines and Resources

NUMBERED VISUAL AIDS

1. Burlington - Skyway Bridge
2. Waterdown
3. Campbellville - Mohawk Race Track
4. Acton - Beardmore Plant (in centre of town)
- 5.
6. Orangeville
7. Tottenham
8. Aurora - Green Water Tank (in centre of town)
9. Markham
10. Fairport Beach

SCALE
0 10
Nautical Miles

LEGEND



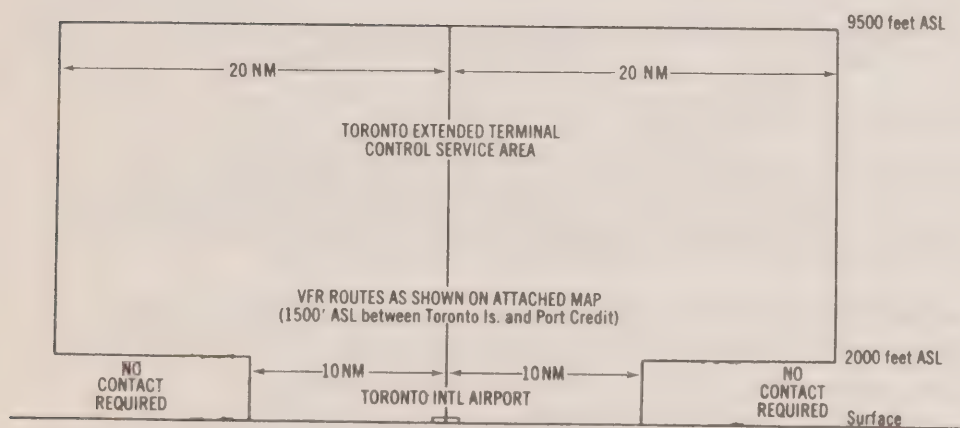
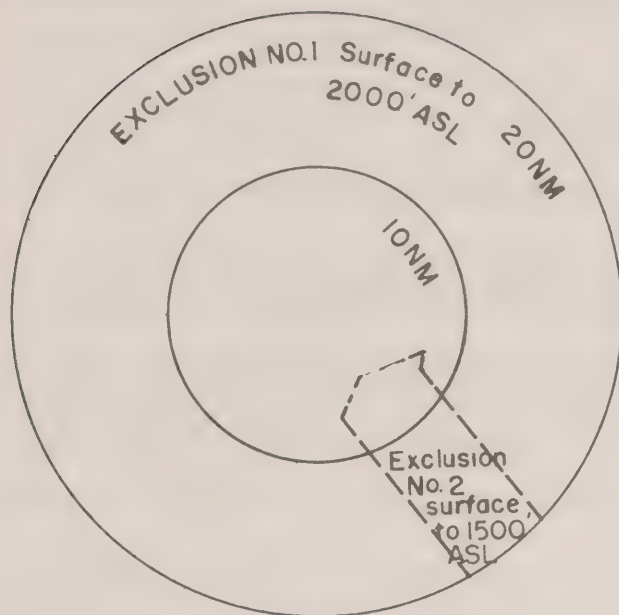
Control zones

TORONTO
117.4

VORTAC

Non-directional radio beacon

Boundary of VFR route



AS ALL IFR FLIGHTS ARE ROUTINELY INVOLVED, IN THE INTEREST OF IMPROVING FLIGHT SAFETY WITHIN THIS AREA, ALL PILOTS OPERATING IN ACCORDANCE WITH THE VISUAL FLIGHT RULES WHO NEED TO OPERATE WITHIN THE EXTENDED SERVICE AREA ARE TO COMPLY WITH THE FOLLOWING FLIGHT PROCEDURES.

Flight Procedures

IFR flights - Current IFR procedures will apply to IFR flights operating within the Toronto Extended Terminal Control Service Area.

Special VFR Flights - will not be approved within the Toronto International Airport Positive Control Zone, helicopters excepted.

VFR Flights - Prior to entering and/or operating within the Toronto Extended Terminal Control Service Area, pilots must establish and maintain radio communication with Toronto Terminal Control on 119.3 MHz or 125.4 MHz.

Radar identification of aircraft operating within ETCSA is of prime importance in the provision of an effective service. For this reason, arriving and transiting aircraft shall enter the ETCSA over, or as near as possible to, those navigation aids or numbered visual aids depicted on the accompanying chart. Also, pilots shall contact Toronto Terminal when over or approaching those navigation or numbered visual aids. Aircraft equipped with DME or a transponder may enter at any point provided contact is established with Toronto Terminal immediately prior to entering the ETCSA.

Pilots are requested to provide the Terminal upon initial contact, their geographical position, altitude and destination.

Example:

Pilot: TORONTO TERMINAL THIS IS ALPHA BRAVO CHARLIE, OVER.

Terminal: ABC TORONTO TERMINAL, OVER.

Pilot: TORONTO TERMINAL ABC OVER ORANGEVILLE, 5000 LANDING
TORONTO INTERNATIONAL

Terminal will provide necessary information or instructions.

Aircraft operating within the excluded areas shall not contact Toronto Terminal Control except those aircraft intending to land at the Toronto International or Downsview Airports. Pilots intending to use navigation and/or approach aids within the ETCSA for training purposes are required to obtain prior approval from Toronto Terminal Control before take-off from their respective airports.

Aircraft operating wholly within the Toronto International, Toronto Island, Downsview and Buttonville Control Zones shall maintain communication with the control tower controlling the zone.

Any ATC instruction issued to VFR flights is based on the firm understanding that a pilot will advise ATC immediately if compliance with the instruction would result in his not being able to maintain adequate terrain or obstruction clearance, or to continue flight in accordance with the Visual Flight Rules. If so advised, ATC will issue alternate instructions.

ATC Procedures

When aircraft are within radar coverage, controllers may request arriving, departing or transiting aircraft to report their position in relation to radio or prominent geographical fixes, which may be within or outside the perimeter of the extended service area. These reports will assist ATC to radar identify the aircraft.

To the extent possible, traffic information, flight information and radar navigation assistance will be provided to VFR flights.

VFR aircraft may be provided with routing instructions in the ETCSA.

Radar vectors may be given to VFR flights operating within the ETCSA when:

- (a) Vectoring is requested by the pilot;
- (b) Vectoring is suggested to and accepted by the pilot;
- (c) Vectoring is necessary to position an aircraft in the approach sequence;
- (d) The controller considers that vectoring is necessary for safety of flight.

An altitude may be assigned to a VFR aircraft when considered necessary.

If these services to aircraft entering the ETCSA cannot be provided, or if service is terminated before an aircraft leaves the area, the pilot will be so informed by ATC.

THESE PROCEDURES ARE NOT TO BE INTERPRETED AS RELIEVING PILOTS OF THEIR RESPONSIBILITY TO SEE AND AVOID OTHER TRAFFIC, TO MAINTAIN APPROPRIATE TERRAIN AND OBSTRUCTION CLEARANCE, OR TO REMAIN IN WEATHER CONDITIONS EQUAL TO OR BETTER THAN THE PUBLISHED VFR MINIMA.

VFR Routes

In order to accommodate VFR pilots wishing to avoid the ETCSA and to help ATC to differentiate between such flights and those operating within the ETCSA, VFR routes have been established along normal traffic flow patterns outside the 10 mile perimeter of the Toronto International Airport. Accordingly, pilots of aircraft operating to or from the following airports are requested to adhere to the following VFR routes at or below the altitudes specified. These routes are two miles wide and are shown on the accompanying chart. Traffic operating via these routes should fly so as to keep the centreline of such routes on their left. It is recognized that itinerant pilots may not be familiar with these routes and, if requested, ATC will provide the necessary assistance.

(1) Toronto Island to Buttonville

East via the Lakeshore to the Greenwood Racetrack then via the Don Valley Parkway to Highway 401 direct to Buttonville, altitude 2000 feet ASL or below.

(2) Toronto Island to Kitchener/Waterloo, Guelph

West via the Lakeshore to Port Credit, altitude 1500 feet ASL or below, Port Credit to Oakville, altitude 2000 feet ASL or below, then direct to destination.

(3) Buttonville/Maple/King to Kitchener and Guelph and Hamilton

Buttonville direct Maple Airport, direct Bolton, direct Brampton Airport, direct Georgetown, altitude 2000 feet ASL or below, then direct to destination.

NOTE: Pilots may leave or enter these routes, avoiding the ETCSA, at any point along the routes, EXCEPT TOWARDS THE AREA OF HIGH TERRAIN DEPICTED ON THE ACCOMPANYING CHART.

MONTREAL INTERNATIONAL AIRPORT, QUEBEC

NOISE ABATEMENT - ARRIVAL AND DEPARTURE PROCEDURES - These procedures are applicable to all turbo-jet aircraft operating at Montreal International Airport. They establish restrictions applicable to the period between midnight and 0700 hours local time, specific minimum operating altitudes, and specific directions of flight to avoid insofar as practicable residential areas surrounding the airport.

Unless prior authorization has been obtained from the Regional Director, Ministry of Transport, or his designated representative, the operation of turbo-jet aircraft between midnight and 0700 hours local time shall be in accord with the following:

- (a) the scheduling of regular flights using turbo-jet aircraft is not permitted during this period;
- (b) turbo-jet aircraft, other than those operating in accordance with a published service schedule, are not permitted to use Montreal International Airport during this period;
- (c) flights arriving between midnight and 0700 hours will not be permitted to depart prior to 0700 hours.

Diligent application of Noise Abatement Procedures by all turbo-jet aircraft during take-off/ climb and approach/land manoeuvres will assist in reducing aircraft noise in the vicinity of the airport.

Preferential Runways - The procedures set forth below and illustrated on the accompanying chart are to be followed by all turbo-jet aircraft, unless otherwise authorized by Air Traffic Control. Whenever practicable Air Traffic Control will assign runways in the following order:

- (a) Take-offs: 06L, 10, 06R, 28, 24R, 24L
- (b) Landings: 24R, 28, 24L, 06R, 06L, 10

Should valid aircraft operational requirements preclude the use of the assigned runway, ATC is to be informed of the reason and requested to assign another runway.

For the information of all pilots, the following factors will be considered by ATC in selecting the preferential runway:

- (i) The physical condition of the runway surface, i.e., dry, wet, ice covered, sanded and braking action.
- (ii) The effective crosswind component should not exceed 15 knots.
- (iii) The effective downwind component should not exceed 5 knots. Notwithstanding the foregoing, the acceptability of the runway to be used must ultimately rest with the pilot.

DEPARTURE PROCEDURES

- (a) When weather conditions are not a precluding factor, the approved Company Noise Abatement climb technique shall be used from all runways until the aircraft is at least 2,000 feet AGL, i.e., the climb profile for each type of aircraft should, consistent with safety of operations, be such as to give the best possible performance with respect to Noise Abatement.
- (b) Runway 06L and 06R - climb on runway heading to 3,000 feet ASL before proceeding on course, unless otherwise instructed by ATC.
- (c) Runway 24R and 24L - climb on runway heading to 3,000 feet ASL or until halfway across Lake St. Louis before proceeding on course, unless otherwise instructed by ATC.

- (d) Runway 28 - right turn as soon as practicable to climb on a heading of 300° Magnetic to 3,000 feet ASL before proceeding on course.
- (e) Runway 10 - right turn as soon as practicable to climb on a heading of 125° Magnetic to 3,000 feet ASL before proceeding on course.
- (f) Aircraft departing on runways 06R and 24R may be requested to make a limited turn shortly after take-off. In these cases, take-off instructions will include the phraseology "to commence a (left, right) turn as soon as practicable after climbing through 300 feet AGL to a heading of degrees".

ARRIVAL PROCEDURES

- (a) When weather conditions permit, the minimum circuit height shall be 2,000 feet ASL.
- (b) Aircraft approaching to land shall maintain an initial approach altitude of not less than 2,000 feet ASL and should hold this altitude as long as practicable before commencing final descent to the runway. During final approach under both VFR and IFR, every effort should be made to remain on or slightly above the approach slope angle as provided by the ILS Glide Path, VASIS or PAR.
- (c) Turns on to final approach shall be completed at a distance of not less than 6 NM from the threshold of the runway to be used.
- (d) The use of thrust and the selection of gear and flap settings for different flight configurations of each type of aircraft should, consistent with safety of operations, be such as to give the best possible performance with respect to noise abatement during the approach-to-land manoeuvre.
- (e) Unless otherwise directed by ATC, airport circuit direction shall be as follows:

Runways 24L, 24R, and 28 - Left Hand
Runways 06L, 06R, and 10 - Right Hand

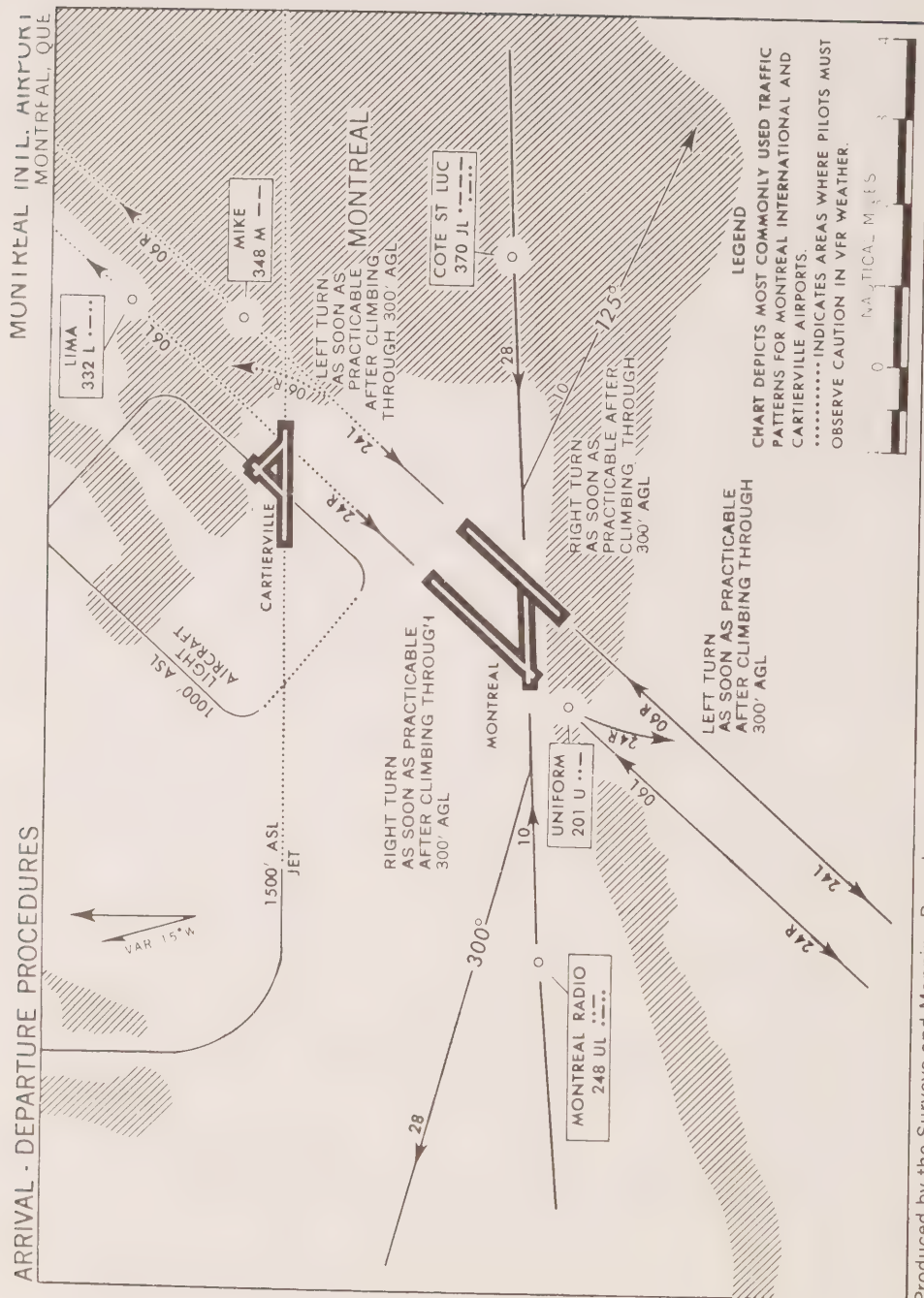
NOTWITHSTANDING THE FOREGOING PROCEDURES OR ANY INSTRUCTIONS RELATING THERETO ISSUED BY AIR TRAFFIC CONTROL, DECISIONS AFFECTING THE SAFE OPERATION OF THE AIRCRAFT SHALL REMAIN THE CAPTAIN'S RESPONSIBILITY.

SPECIAL NOTE: - Approaches to Runway 24R and 24L
Departures from Runways 06R and 06L

When operating in the approach areas to 24L and 24R (06L and 06R take-off/climb areas) pilots are cautioned to keep a sharp look-out for military and civil aircraft operating VFR to and from Cartierville Airport which is located 3 NM Northeast of Montreal International Airport.

AIRCRAFT NOISE MONITORING

Fully automatic noise monitoring equipment has been installed on the approaches to runways 06L, 06R and 24L. In addition, mobile equipment is available for monitoring aircraft noise in any area around the airport.



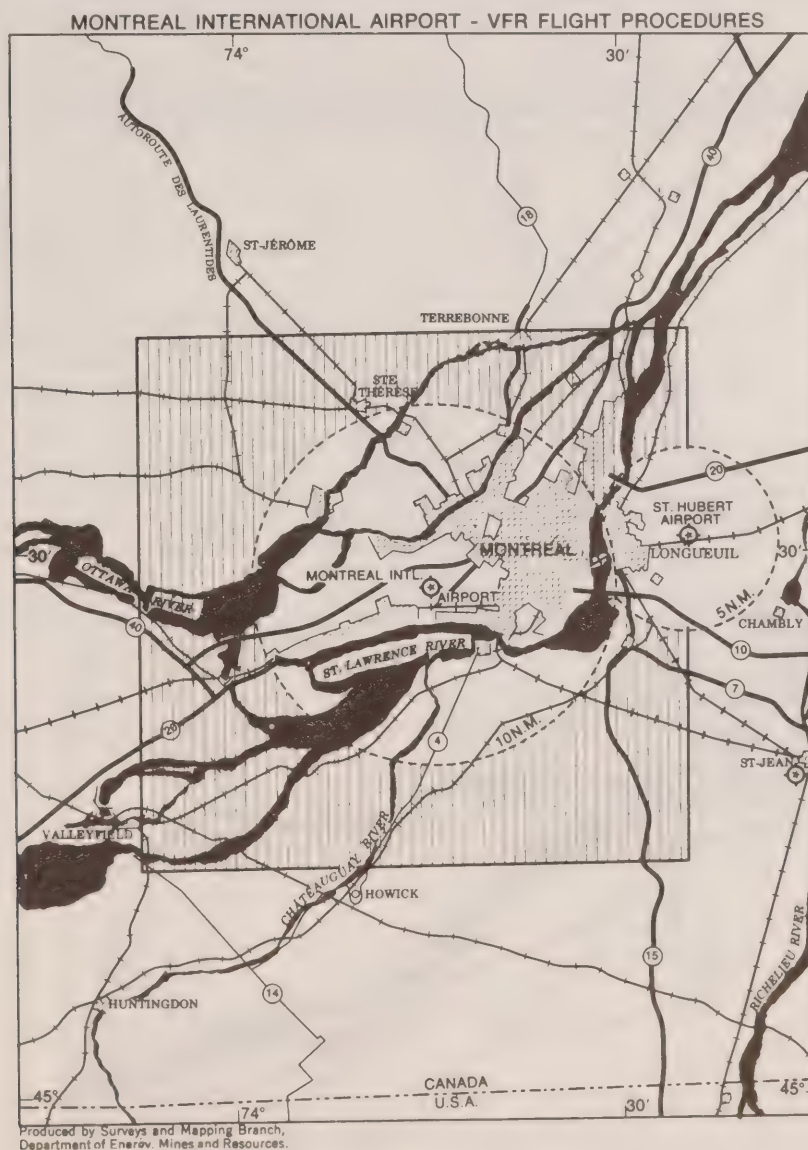
Produced by the Surveys and Mapping Branch,
Department of Energy, Mines and Resources, Ottawa.

VFR FLIGHT PROCEDURES

In addition to the procedures applicable to the positive control zones as set forth in ANO Series V No. 21, entitled "Positive Control Zone Order", pilots of VFR aircraft planning to operate in the airspace above 1500 feet ASL over the hatched area shown on the accompanying chart are requested to contact Montreal Tower on 119.1 MHz upon entering the airspace.

Pilots should inform the tower of their geographical positions in relation to a prominent land mark, altitude and proposed route of flight.

Compliance with this procedure will assist ATC in providing VFR pilots with information concerning possible conflicting IFR or VFR traffic.



ST. HUBERT AIRPORT, QUEBEC

Sport Aviation and Training Areas

Extensive aerobatic flying training is conducted within the area depicted on the accompanying chart between the St. Lawrence and Richelieu Rivers, up to and including 5000 feet ASL during day-light hours in VFR weather conditions.

Extensive ab initio flying training is conducted within the area depicted on the accompanying chart between the Richelieu and St. Francois Rivers, up to and including 4000 feet ASL during day-light hours in VFR weather conditions.

In the interest of safety, pilots of aircraft not involved in these activities should avoid the areas at and below the altitudes indicated.



CHATHAM, N. B.

Aircraft taking off or landing must be equipped with serviceable two-way radio.

SPECIAL PROCEDURES - Extensive day and night military air operations are conducted within a radius of 60 NM of the DND aerodrome at Chatham, N.B.

It is therefore strongly recommended in the interest of safety, that no aircraft be operated in accordance with the Visual Flight Rules within 60 NM of Chatham, N.B. unless:

- (a) the aircraft is equipped with serviceable two-way radio;
- (b) a clearance has been received from Chatham Control Tower or Terminal Control Unit; and
- (c) a listening watch is maintained on a frequency assigned by the Chatham Control Tower or Terminal Control Unit.

The pilot-in-command of an aircraft without two-way radio who cannot avoid flying within this area is cautioned to exercise extreme vigilance; to remain well clear of cloud and well clear of the DND aerodrome at Chatham and the area described as follows: the area bounded by a line from Chatham aerodrome; 47°10'N, 64°50'W; 47°00'N, 64°50'W; to the point of beginning.

Primary communication frequencies are as follows:

Chatham Terminal Control	- 123.7, 346.9
Chatham Tower	- 126.2, 121.5 and 236.6

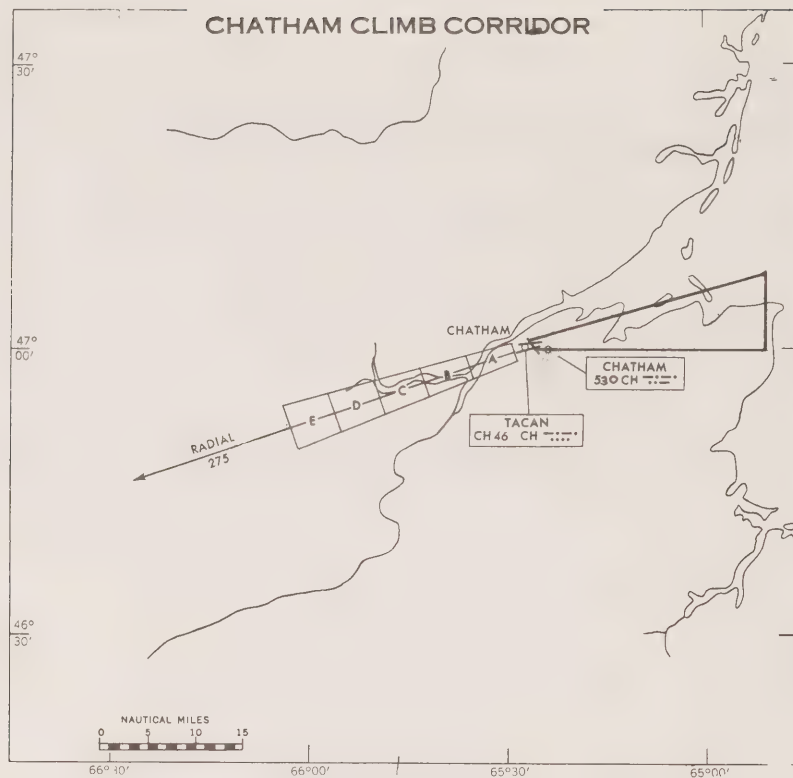
CHATHAM CLIMB CORRIDOR - The Chatham Climb Corridor, is centered on the 275° M radial of the Chatham TACAN.

The airspace envelope associated with the Chatham Climb Corridor is:

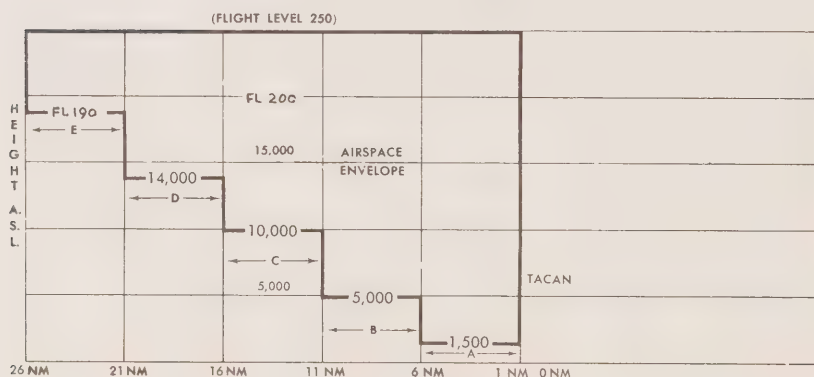
In Area "A", (from 1 NM out to 6 NM out)	1,500 feet ASL to Flight Level 250
In Area "B", (from 6 NM out to 11 NM out)	5,000 feet ASL to Flight Level 250
In Area "C", (from 11 NM out to 16 NM out)	10,000 feet ASL to Flight Level 250
In Area "D", (from 16 NM out to 21 NM out)	14,000 feet ASL to Flight Level 250
In Area "E", (from 21 NM out to 26 NM out)	Flight Level 190 to Flight Level 250

Primarily, the Chatham Climb Corridor will be used by high performance military aircraft departing Chatham aerodrome. However, high performance civil aircraft may also use it with the prior approval of Chatham Terminal Area Control.

Pilots of aircraft wishing to fly within the airspace envelope of the Chatham Climb Corridor should first communicate with Chatham Terminal Area Control.



**PROFILE OF AIRSPACE ENVELOPE ASSOCIATED WITH THE
CHATHAM CLIMB CORRIDOR**



DOUGLASTOWN, N.B.

In addition to the foregoing, flights of civilian aircraft using the Douglastown Air Strip, while within the Chatham Control Zone, (10 nautical mile radius of Chatham aerodrome) should avoid that part of the Control Zone lying South of the South Bank of the Miramichi River and West of the Eastern limits of the Town of Newcastle. This includes arrivals and departures as well as local flights. Exceptions to this rule may be granted for flights equipped with two-way radio and in contact with Chatham Tower or Terminal Control.

USE OF AERODROMES BY AIRCRAFT ENGAGED IN INTERNATIONAL OPERATIONS

The following aerodromes are designated for use by aircraft flying on international (other than trans-border) operations.

The privileges mentioned are extended subject to each flight having been properly authorized and to whatever restrictions the Government of Canada may from time to time, or in specific cases, deem to be warranted.

The definitions listed hereunder are only applicable to this NOTAM:

Regular Aerodrome: An aerodrome which may be listed in the flight plan as an aerodrome of intended landing.

Alternate Aerodrome: An aerodrome specified in the flight plan to which a flight may proceed when it becomes inadvisable to land at the aerodrome of intended landing.

International General Aviation Aircraft: All aircraft not operated on a commercial air service but excluding any aircraft having a maximum gross weight in excess of 30,000 pounds.

Canadian aerodromes which may be used, and the basis on which they may be used, are as follows:

REGULAR

Calgary International
Edmonton International
Gander International
Halifax International
* St. John's (Torbay)

Montreal International
Toronto International
Vancouver International
Winnipeg International

REFUELLING ONLY

Frobisher

ALTERNATE

Abbotsford
** Comox
*** Goose

Ottawa International
Sydney
Windsor

- * For use by international general aviation aircraft only.
- ** While the runway at Comox military aerodrome is suitable for large aircraft engaged in international air carrier operations, it must be noted that facilities for refuelling and handling large civil aircraft, and for the provision of immigration, health and passenger amenity services, are extremely limited. Operators using Comox aerodrome as an international alternate and requiring services as above can anticipate extensive delays and passenger discomfort.
- *** Notwithstanding the recent change from military to civil administration at Goose Airport, the airport is operated on a joint civil/military basis, and it may only be used as an alternate by aircraft engaged in international operations when the regular airport at Gander is unusable. Permission to use Goose under these circumstances is granted as a concession only and its unauthorized use may result in the privilege being cancelled.

Permission to use the above aerodromes in international operations does not convey traffic rights at these aerodromes to any carrier unless such rights have been authorized by the Air Transport Committee of the Canadian Transport Commission.

USE OF DEPARTMENT OF NATIONAL DEFENCE AERODROMES
BY CIVIL AIRCRAFT

The Department of National Defence recognizes the need to assist the operators of civil aircraft. However, the increasing number of requests by civil aircraft operators for the use of DND aerodromes has made it necessary to set out the following policy.

All applications will be viewed in the light of air traffic, service required, military security, and competition with civil facilities. The following is a guide in making requests:

NOTE: For the purpose of this notification, commercial aircraft are defined as those civil aircraft, not operated by or on behalf of a government agency, which are engaged in the carriage of personnel or cargo for profit.

NON-RESTRICTED AERODROMES - No prior authorization is required to use the DND aerodrome at Val d'Or, Que., or the jointly operated MOT/DND airport at Goose, Newfoundland, except as specified above in the portion covering the Use of Aerodromes by Aircraft Engaged in International Air Carrier Operations. Civil aircraft operators should note that permission to use the above aerodromes under the condition specified is granted as a concession only and the privilege could be cancelled if civil operations adversely affect the military operation.

CLOSED AERODROMES - The DND aerodrome at Suffield, Alberta is closed to all civil aircraft.
- The DND aerodrome at Wainwright, Alberta is closed to all civil aircraft.

ALL OTHER DND AERODROMES

Commercial Traffic

Continuous - No further expansion of commercial use of Department of National Defence airfields can be permitted where evidence indicates that the intended use will be of a continuing nature unless the commercial operators are prepared to provide their own supporting facilities, and the Department of National Defence agrees that the provision of these facilities would not adversely affect the military function. Such facilities would have to be located at a site remote from the Department of National Defence building complex, accessible by a separate road, security fenced and completely self-contained for the provision of all necessary services except weather information and air traffic control. Any such application is to be made to the Department of National Defence through the Director, Civil Aviation Branch, Ministry of Transport, Ottawa.

Itinerant - Permission is to be requested from the Department of National Defence through the Director, Civil Aviation Branch, Ministry of Transport, Ottawa.

Non-Commercial Traffic

Application is to be made directly to the Base Commander of the Canadian Military base involved.

SPECIAL PROCEDURES

The following special procedures apply to all civil aircraft wishing to use a DND aerodrome:

- (a) Except in conditions of emergency or unless otherwise specified in this notification or where a formal agreement exists, all civil aircraft must have obtained prior permission from the responsible Department of National Defence Agency before landing at a military aerodrome.
- (b) All applications must include purpose and nature of the flight, identification and type of aircraft, date and duration of proposed use and extent of services/facilities required. Fuel, accommodation or service will not be supplied where civil facilities are available.
- (c) Functioning two-way radio capable of communicating with the military tower is required by all civil aircraft operating into military aerodromes. Authority to waive this requirement may be obtained from the approving authority of the flight.
- (d) Civil helicopters are not to land in the domestic area of any site or base without the express permission of the Base Commander.

- (e) Excluding aircraft operated by the Government of Canada and certain other exemptions, standard fees for landing, hangarage, servicing, etc., will be levied against civil aircraft using military aerodromes. A schedule of such charges may be obtained from any military unit or directly from the Department of National Defence, Ottawa.

USE OF DISTANT EARLY WARNING (DEW) LINE AERODROMES
AND OF CAMBRIDGE BAY AIRPORT

Dewline aerodromes shall not be used by civil aircraft without obtaining prior permission from:

Chief of Defence Staff
Canadian Forces Headquarters
Department of National Defence
Ottawa Ontario K1A 0K2

Attention: DORA

Telephone: 613-992-7829

The support capability at Dewline aerodromes, for itinerant traffic, is extremely limited. The aerodromes and base facilities are scaled and maintained for support of DEW operations; but on occasion, by prior arrangements, limited support may be provided to Canadian commercial air carriers. The use of Dewline airstrips and support facilities for tourist aircraft is not authorized except in the case of bona fide emergencies. All requests for the use of Dewline support facilities and/or Dewline aerodromes must be submitted 15 days in advance of the planned activity and must include the following information:

- (a) Aircraft type, registration, runway surface and length required.
- (b) Name and address of owner or operator together with credit arrangements for payment of support services.
- (c) Purpose of flight, including details of government sponsorship, if applicable.
- (d) Date and estimated time of arrival. If aerodrome is to be used as a base of operation, period of operational use is to be stated.
- (e) Date and estimated time of departure from Dewline aerodrome.
- (f) Any requirements which may exist.
- (g) Number of personnel on board and estimated length of stay of each person.

All Dewline airstrips are operated by the USAF and are listed below:

Broughton	Jenny Lind
Byron Bay	Komakuk Beach
Cape Dyer	Lady Franklin
Cape Hooper	Longstaff Bluff
Cape Parry	Mackar Inlet
Cape Young	Nicholson
Clinton Point	Pelly Bay
Dewar Lakes	Shepherd Bay
Gladman Point	Shingle Point
Hall Beach	Tuktoyaktuk

CAMBRIDGE BAY AIRPORT

The airport at Cambridge Bay is operated by the Ministry of Transport. Pilots landing at Cambridge Bay or filing Cambridge Bay as an alternate are cautioned that no public facilities exist for obtaining food and/or lodgings at the Cambridge Dewline station situated on the airport.

Public facilities for itinerant personnel at Cambridge Bay are extremely limited. Operators requiring food and accommodation are to make prior arrangements through:

Area Administrator
Government of Northwest Territories
Cambridge Bay, N.W.T.

USE OF MINISTRY OF TRANSPORT WEATHER STATIONS -
ARCTIC ARCHIPELAGO

Base facilities at the weather stations located at Isachsen, Mould Bay, Alert, Eureka and Sachs Harbour, N.W.T., are scaled, maintained and operated by the Canadian Meteorological Service of the Ministry of Transport to meet the needs of the meteorological function. As a result, there is extremely limited support capability available to meet any additional demands for service by outside agencies not in direct support of the primary role of these stations.

The Ministry of Transport recognizes that these stations provide the only landing facilities in large areas of the Arctic Archipelago and that even with their very limited capacities, play an important role in support of scientific and exploratory expeditions sponsored by outside agencies. However, the large increase in aircraft activity has resulted in demands on these stations beyond their present capability. Areas in which requirements cannot be met include:

- (a) Air/ground communications on a 24-hour basis for extended periods;
- (b) Year-round runway maintenance;
- (c) Freight handling facilities in support of outside agencies;
- (d) Accommodation and messing for transients of outside agencies.
- (e) AVIATION FUELS AND LUBRICANTS ARE NOT AVAILABLE.

In view of the above, any agency contemplating activity at the above weather stations is required to obtain permission at least two weeks prior to anticipated arrival from the responsible authorities as follows:

- (a) For Isachsen, Mould Bay, Alert and Eureka, N.W.T.:

Administrator
Canadian Meteorological Services
Ministry of Transport
315 Bloor Street West
Toronto 181, Ontario

- (b) For Sachs Harbour, N.W.T.:

Regional Director
Ministry of Transport
Federal Building
9820 - 107th Street
Edmonton 14, Alberta

All requests for permission to use the weather stations listed above must include the following information:

- (a) Aircraft type and registration
- (b) Name and address of owner or operator
- (c) Purpose of activity, including details of government sponsorship, if applicable
- (d) Date and estimated time of arrival. If airstrip is to be used as a base of operations, period of anticipated operational use is to be stated
- (e) Anticipated air/ground communications required, including periods of time (see Note 1 below)
- (f) Volume and type of cargo to be handled or stored (see Note 2 below)
- (g) Number of personnel requiring accommodation or meals (see Note 3 below)
- (h) Credit arrangements for payment of support services (see scale of charges below)

- NOTE 1: Notice through Resolute to the site concerned is required at least three hours in advance of arrival.
- NOTE 2: The Ministry of Transport cannot accept responsibility for the handling of cargo which is not required in the interest of the meteorological function, except in small amounts or in an emergency.
- NOTE 3: The Ministry of Transport cannot accept responsibility for the provision of accommodation or meals except for those activities in direct support of the stations or those limited activities connected with accredited scientific and other expeditions authorized by Headquarters.

SCALE OF CHARGES

The current scale of charges in effect at the weather stations is as follows:

Accommodation per man/bed/night	\$4.00
Meals each	\$7.00
<u>Equipment (Including Operator)</u>	
Light passenger vehicle	\$21.25 (hour or part thereof)
Light truck	21.25 " " " "
Heavy truck	35.00 " " " "
Tractor	41.25 " " " "
Forklift	47.50 " " " "
Crane	47.50 " " " "
Bulldozer	41.25 " " " "
Sled	5.00 " " " "
Herman Nelson	25.00 " " " "
Labour	10.00 hour straight time

Above rates subject to change without notice. Aviation fuels and lubricants are not available.

USE OF RESOLUTE AIRPORT, N.W.T. - FACILITIES AND METEOROLOGICAL SERVICES

Resolute airport is operated and maintained by the Airports and Field Operations Branch of the Ministry of Transport. The Regional Director, Ministry of Transport, 308 Revenue Building, 391 York Avenue, Winnipeg 1, Manitoba, is responsible for the overall control, operation and use of this airport.

The airport and base facilities are scaled and maintained to support the Ministry of Transport commitments in the area; but where possible will support other Government Agencies and their subsidiaries. Assistance such as ground handling, personnel transportation, accommodation, messing, etc., can only be provided for aircraft and personnel not associated or engaged in support of these programmes on an "as available" basis.

It is of particular importance that Federal or other Agencies planning exploration, survey, scientific and other programmes, who wish to obtain permission to use the facilities at Resolute airport, should make their needs known to the Regional Director, Winnipeg, well in advance. Normally a request should precede the activity by not less than six months and preferably by one year. This will allow co-ordination of all user requirements so that the facilities are utilized to the greatest advantage.

Aircraft operators who regularly use Resolute airport should continue to keep the Regional Director advised of their ground support requirements at Resolute. If they require additional assistance for any flight over and above that already agreed upon, they should advise the Airport Manager at least 48 hours in advance of the estimated time of arrival of the aircraft at Resolute. All other aircraft operators who may be anticipating the use of Resolute airport and its facilities must make application and state their requirements to the Regional Director at least two weeks

prior to the estimated arrival date. Aircraft operators and Captains of aircraft should note that it is their responsibility to comply with the terms of this INSTRUCTION rather than that of the chartering agency. Each request for support must contain:

- (a) Aircraft type.
- (b) Ownership.
- (c) Purpose of flight, including details of Government sponsorship if applicable.
- (d) Estimated time, date and place of departure.
- (e) Estimated time of arrival at Resolute airport.
- (f) Anticipated fuel, messing, accommodation, ground and cargo handling requirements.
- (g) Number of personnel on board.
- (h) Length of stay, showing inclusive dates.

In reply to each request the Regional Director will provide details of the assistance, if any, that can be provided.

All aircraft operators and others who receive authority to use Resolute airport and/or base facilities must establish credit prior to arriving at Resolute or be prepared to pay cash for all services and materials received. Credit arrangements should be made with Imperial Oil Co. Ltd., 2 Place Ville Marie, Montreal, Quebec in advance of the trip and assurance obtained that the quantity and types of fuel required will be available.

Aircraft operators and Agencies should note that messing, accommodation, other facilities and services are in short supply at Resolute during the following periods and they should plan their schedules to avoid these dates if possible:

- (a) Spring Airlift - April 20 - 30
- (b) Summer Sealift and Fall Airlift - August 10 - September 15

NOTE: Pilots are requested to call the aeradio station at least 10 minutes before landing, and before taxiing out for take-off in order that any equipment working on the runway may be removed.

ADVANCE NOTIFICATION REQUIREMENTS FOR METEOROLOGICAL SERVICE - The meteorological staff at Resolute are frequently hampered in providing pre-flight weather service by lack of sufficient prior notification.

Pilots and aircraft operators are reminded that in their own best interests sufficient advance notice of their requirements must be given so that meteorological staff will be on hand to prepare pre-flight material and to obtain from other stations, information not regularly available at Resolute.

For routine trips the forecast office should be notified at least three hours prior to the time at which the forecast or briefing is required. Notification relating to a long range flight should be given at least 12 hours before the estimated time of departure. The following information should be provided:

- (a) Place and estimated time of departure.
- (b) Destination and estimated time of arrival.
- (c) Alternates for which terminal forecasts are required.
- (d) Proposed cruising altitude of flight.
- (e) Flight rules applicable.
- (f) Time briefing is required.

If time on the ground at Resolute does not permit such advance notice, the request should be placed by message in advance of arrival. Priority of meteorological service will be given to flights which have provided prior notice of requirement for service.

The co-operation of all pilots and operators is earnestly requested.

USE OF HELICOPTER LANDING SITES - ONTARIO

Pilots are advised that the Hydro Electric Power Commission of Ontario has installed wind socks at helicopter landing fields immediately adjacent to or near high tension transmission lines in the Province of Ontario.

These windsocks may be identified by a large International orange cross placed on the top of the poles carrying the windsocks.

These landing areas will not be marked in any other manner which would indicate an airport suitable for conventional type aircraft.

PART II

HAZARDS AND OBSTRUCTIONS

GENERAL HAZARDS

WARNING TO PILOTS

In the past few years, there has been a noticeable increase in the various kinds of electric transmission line crossings, telephone line crossings, etc., over rivers and lakes in Canada. It is suggested, therefore, that pilots of seaplane and amphibious aircraft, as well as pilots flying at low altitudes in poor weather conditions, use extreme caution when flying along or landing and taking off from unfamiliar waterways.

Companies and concerns constructing such crossings have been requested to mark the towers and poles with alternate bands of international orange and white paint, and to clear the area around the base of these structures, so that they will be more readily visible from the air.

It is possible that some crossings have not been marked, or that some have been marked and are still difficult to see. Consequently, the utmost caution when flying in and around unfamiliar waterways should be exercised. In addition, pilots are advised to use caution whenever flying over unfamiliar terrain at less than 1,500 feet AGL in view of the many transmission, radio, TV and micro-wave towers being erected across the country.

All known structures 300 feet or higher above the surrounding terrain are published on Aeronautical Charts together with those lower structures in the vicinity of an aerodrome which are considered to be potentially hazardous.

Structures 500 feet or higher above the surrounding terrain which have been brought to our attention are listed separately for each Province. These are considered potentially hazardous to aircraft operations particularly in marginal weather conditions. The Ministry is unable to guarantee the completeness of this list, and as a result pilots are warned that other such structures may exist.

Extreme caution should be exercised when flying in the vicinity of these structures, particularly in conditions of reduced visibility, and extreme caution should be exercised whenever flying over unfamiliar terrain at less than 1,500 feet AGL.

MILITARY JET TRAFFIC

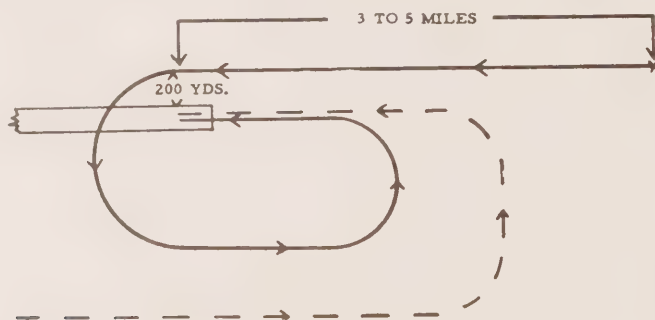
While military jet activity may be encountered in the vicinity of any airport, military jet traffic making high speed arrivals and departures is likely to be encountered frequently at the following airports and a sharp lookout should be maintained.

Comox, B.C.
Cold Lake, Alta.
Portage, Man.

Thunder Bay, Ont.
Val d'Or, P.Q.
Bagotville, P.Q.

Chatham, N.B.
Goose, Nfld.
Moose Jaw, Sask.

Military jet aircraft do not normally follow the rectangular circuit pattern but perform a "flat break" followed by an abbreviated circuit pattern as illustrated below.

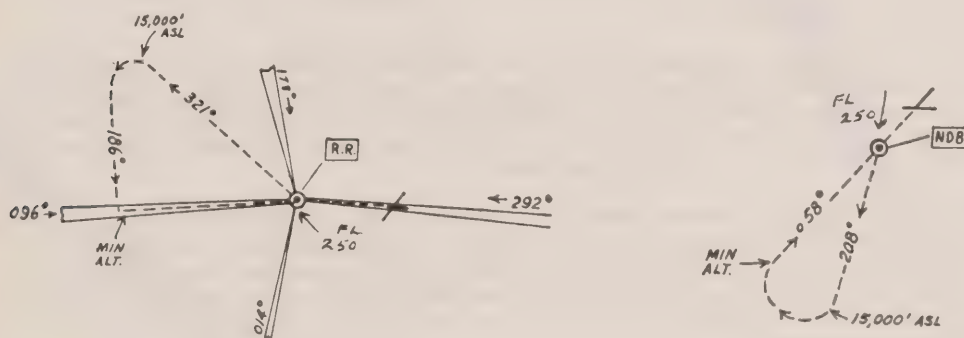


POTENTIAL HAZARD - MILITARY JET APPROACH PROCEDURES

Jet aircraft may be expected to use any aeronautical facility in Canada for the purpose of carrying out an instrument approach procedure. The two basic types of procedures now in effect are as follows:

- (a) The first type of procedure is one in which the jet commences the procedure by crossing the facility being used at Flight Level 200 or Flight Level 250. It then descends out-bound on a heading 45° to the left or right of the desired in-bound track to an altitude of 15,000 feet ASL where a penetration turn is made to intercept the in-bound track at right angles. Descent is continued in the penetration turn and the in-bound track is usually intercepted at minimum altitude. The aircraft then proceeds on the in-bound track to the facility and from the facility to the airport.
- (b) The second type of procedure is one in which the jet commences the procedure by crossing the facility being used at Flight Level 200 or Flight Level 250 and then descends out-bound on a heading 30° to the left or right of the in-bound track to an altitude of 15,000 feet ASL. At this point a penetration turn is made to intercept the in-bound heading at minimum altitude. The aircraft then proceeds to the facility and from the facility to the airport.
- (c) Samples of these procedures are here shown in pictorial form.

While jet aircraft obtain the necessary clearance to commence an approach, it will be apparent that due to the speeds and rates of descent being used a certain amount of hazard will exist to aircraft flying visual in the area where the jet breaks through the cloud base. Therefore, all pilots are cautioned that when flying VFR in the vicinity of an airport they should remain sufficiently below the cloud base to avoid conflict with aircraft making descent through the cloud.



All jet procedures in Canada are based on the use of standard navigational aids such as LF Radio Ranges, NDB's or VOR's. Pilots are urged to maintain a listening watch on the appropriate frequency when flying in the vicinity of any of these facilities and to keep a sharp lookout for jet aircraft performing let-down procedures.

LOW LEVEL FLYING EXERCISES

As a result of changes made in military training syllabi there has been further increase in the number of low-level flying exercises. Heavy military jet traffic at both high and low altitudes may therefore be encountered in the vicinity of the following aerodromes:

Cold Lake, Alberta

(Extensive military jet traffic at altitudes less than 1,000 feet above ground within a 200 nautical mile radius)

Chatham, N.B.

Moose Jaw, Sask.

Bagotville, P.Q.

MILITARY AIR OPERATIONS AT HIGH ALTITUDES

Civil pilots operating within the Edmonton Flight Information Region below the Edmonton Arctic Control Area may encounter military aircraft flying in a "cell" formation of three aircraft.

In "cell" formation, the aircraft are separated vertically by 500 feet and while the formation will be centred on the proper hemispherical cruising level according to the direction of flight, one aircraft will be 500 feet above this level and one 500 feet below.

The vertical separation between aircraft on opposing tracks as provided by the Cruising Altitude Order (A.N.O. Series V, No. 2) will, in these circumstances be appreciably reduced.

MILITARY FLYING ACTIVITY - NORTH PACIFIC

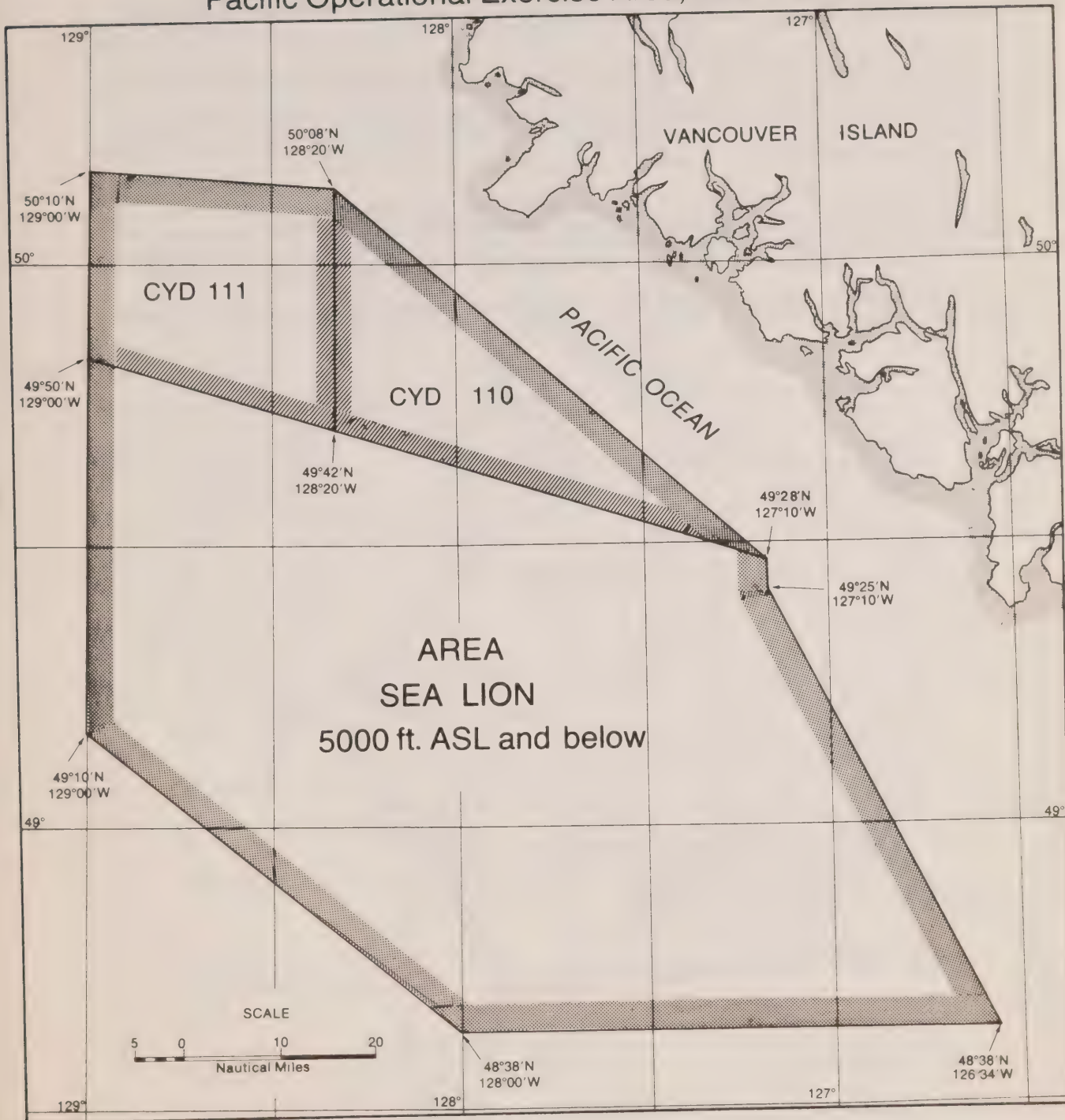
The airspace over an area of the North Pacific, off the West Coast of Vancouver Island, is being used extensively for day and night military air operations. This airspace designated AREA SEA LION, extends upward from the surface to 5000 feet ASL over an area bounded by a line commencing at 48°38'N, 126°34'W to 48°38'N, 128°00'W to 49°10'N, 129°00'W to 50°10'N, 129°00'W to 50°08'N, 128°20'W to 49°28'N, 127°10'W to 49°25'N, 127°10'W to 48°38'N, 126°34'W. (See accompanying chart)

All-weather operation and training flights are conducted daily in anti-submarine warfare (ASW) aircraft within AREA SEA LION. The aircraft are flown on various headings and at various altitudes up to and including 5000 feet ASL. Rapid climbs and descents are executed without prior warning. Because of operational considerations, these aircraft may be operated without navigation and identification lights during the hours of darkness.

Pilots of aircraft not operating under the operational control of Maritime Commander Pacific, who propose to fly in or through this airspace are advised to file a flight plan before entering the airspace and should request the appropriate Area Control Centre to provide co-ordinating and flight advisory service and to relay the flight plan to the Canadian Commander Maritime Forces Pacific (CANMARFAC OPERATIONS) Esquimalt, B.C. Pilots are also advised to exercise extreme caution when flying within this airspace.

It should be noted that the Northern portion of the area depicted on the accompanying chart is designated as two DANGER areas. Air firing exercises may be carried out within these areas on a continuous basis. While the airspace required for these exercises normally extends up to 5000 feet ASL only, there may be an occasional requirement to extend the airspace above 5000 feet ASL. In such an event, at least 24 hours notice will be provided by Class I NOTAM.

Pacific Operational Exercise Area, SEA LION.



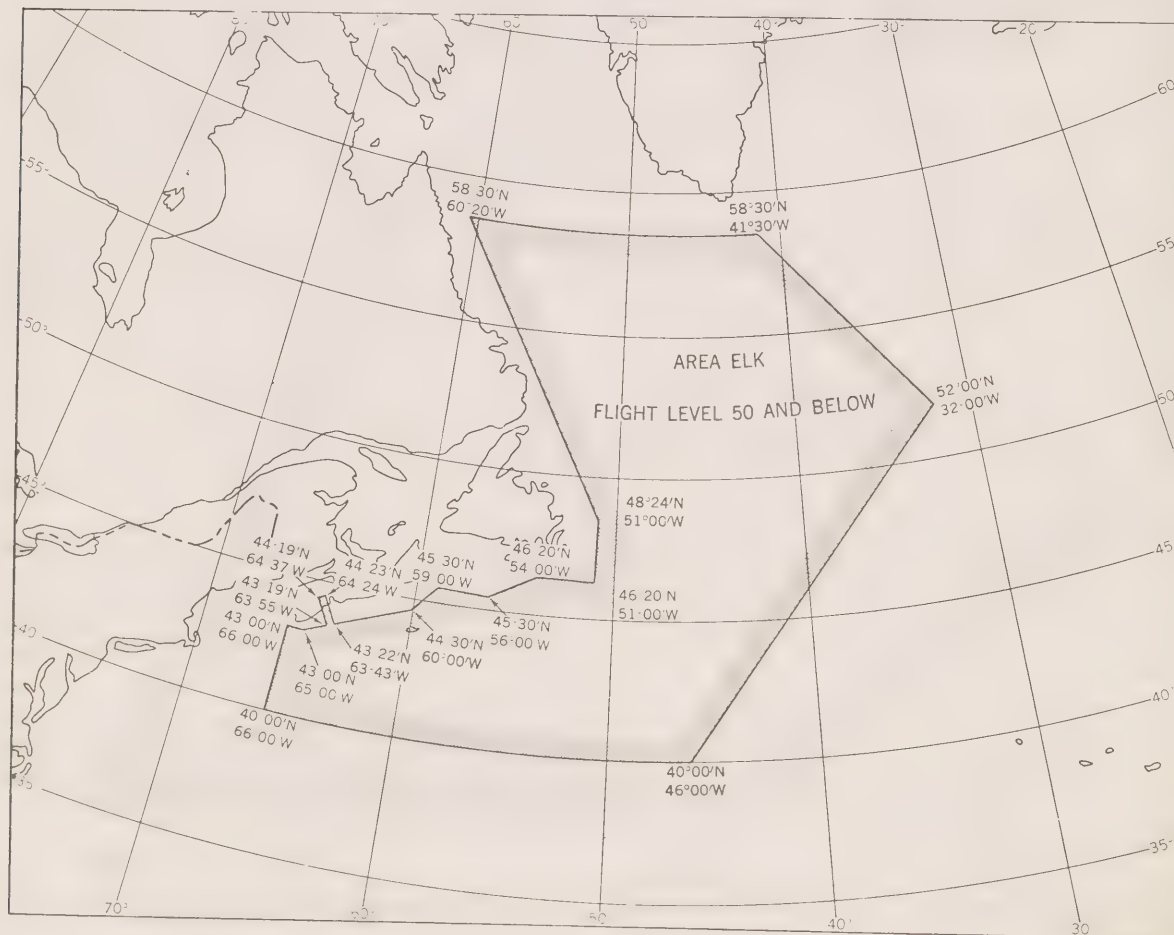
MILITARY FLYING ACTIVITY - NORTH ATLANTIC

The Department of National Defence advises that an area over the North Atlantic is being used extensively as airspace for day and night military air operations.

The area, which is depicted as AREA ELK, consists of that airspace extending upwards from the surface to Flight Level 50 and encompasses the following area: from 43°00'N, 66°00'W to 43°00'N, 65°00'W to 44°30'N, 60°00'W to 45°30'N, 59°00'W to 45°30'N, 56°00'W to 46°20'N, 54°00'W to 46°20'N, 51°00'W to 48°24'N, 51°00'W to 58°30'N, 60°20'W to 58°30'N, 41°30'W to 52°00'N, 32°00'W to 40°00'N, 46°00'W to 40°00'N, 66°00'W to the point of origin, plus a ten-mile extension from 44°19'N, 64°37'W to 44°23'N, 64°24'W and 43°19'N, 63°55'W to 43°22'N, 63°43'W.

Military aircraft are conducting daily all-weather operational flights in the area. These aircraft are required to operate on various headings and altitudes up to and including Flight Level 50 and to make rapid climbs and descents without prior warning. These aircraft, because of operational considerations, operate without navigation and identification lights during the hours of darkness.

Pilots who propose to fly within this area are advised to file a flight plan before entering the area and to exercise extreme caution when flying within the area.

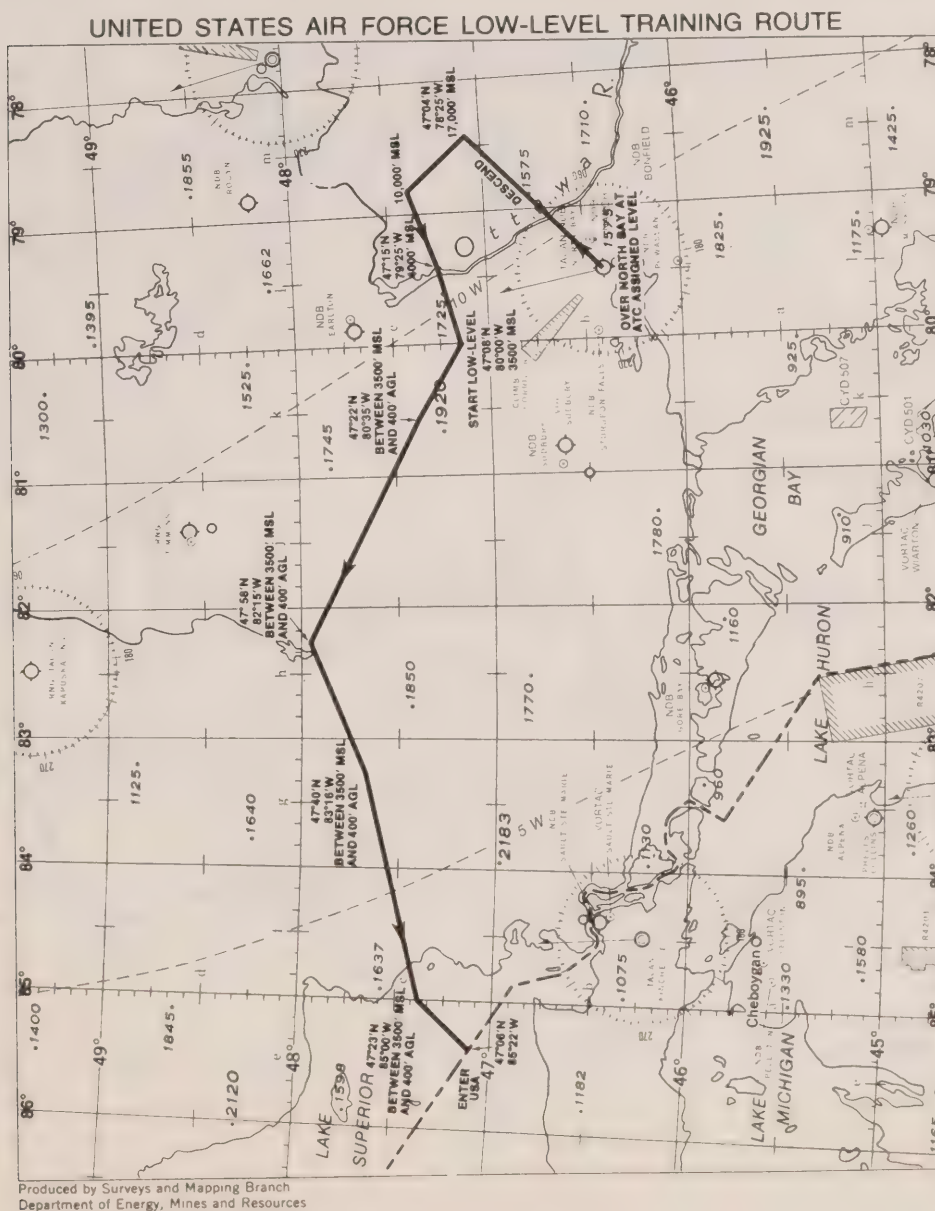


UNITED STATES AIRFORCE LOW-LEVEL TRAINING ROUTE

Aircraft will follow the route shown on the chart below and remain within 4 NM of centre-line. Altitudes will be in accordance with the chart, except that in the low-level portion aircraft may, in VFR weather conditions, descend to within 400 feet AGL.

Pilots are urged to exercise caution when flying in the vicinity of this route.

Details of daily schedules may be obtained by contacting MOT Aeradio Stations, or by calling collect Toronto Area Control Centre, Tel. No. 676-3011.

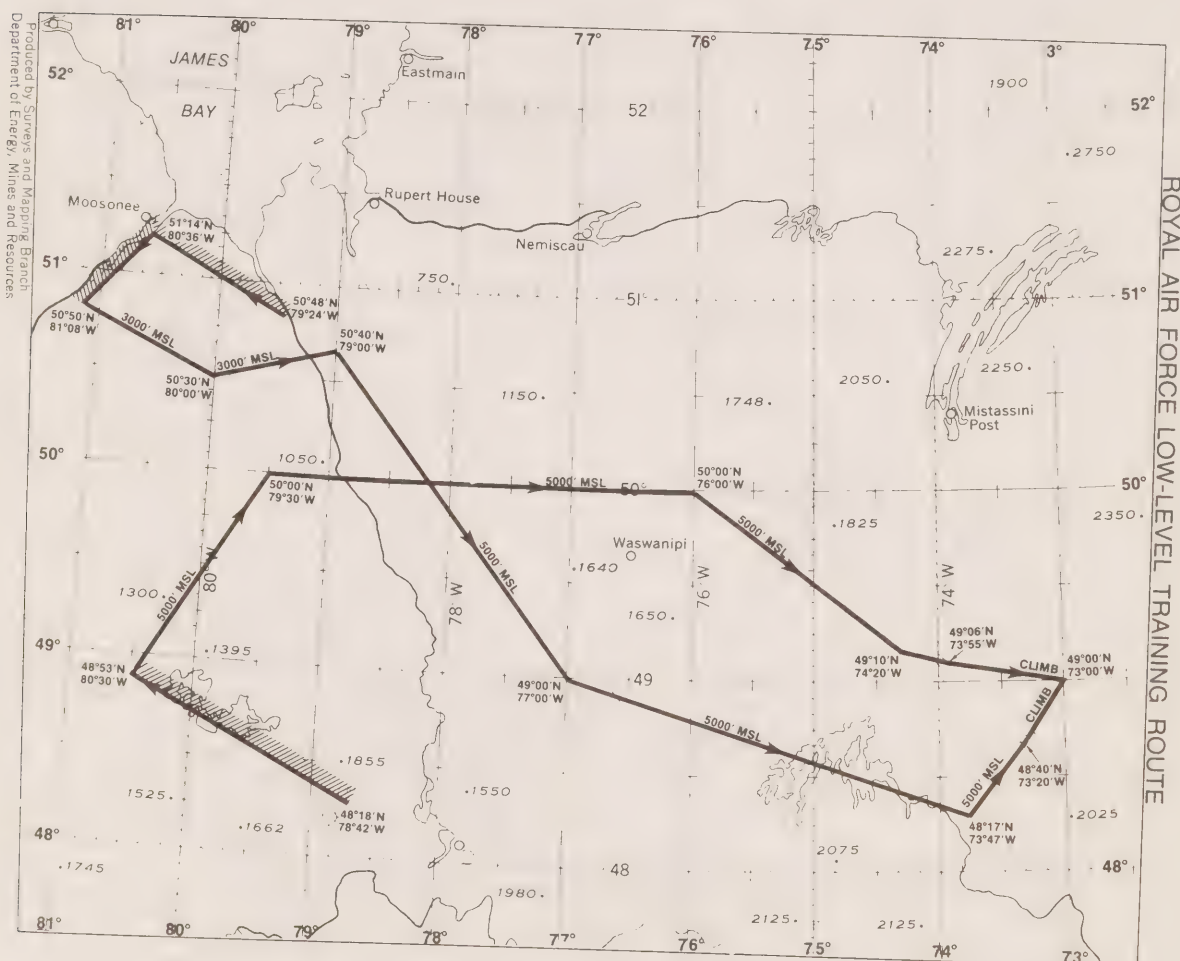


ROYAL AIRFORCE LOW-LEVEL TRAINING ROUTE

Aircraft will follow the route shown below and remain within 4 NM either side of centreline. In the DESCEND and CLIMB areas aircraft may be encountered between the low-level portions and FL 230. In the low-level portions aircraft may, in VFR weather conditions, descend to within 250 feet AGL.

Pilots are urged to exercise caution when flying in the vicinity of this route.

Details of daily schedules may be obtained by contacting MOT Aeradio Stations, or by calling collect Toronto Area Control Centre, Tel. No. 676-3011 or Montreal Area Control Tel. No. 636-3211

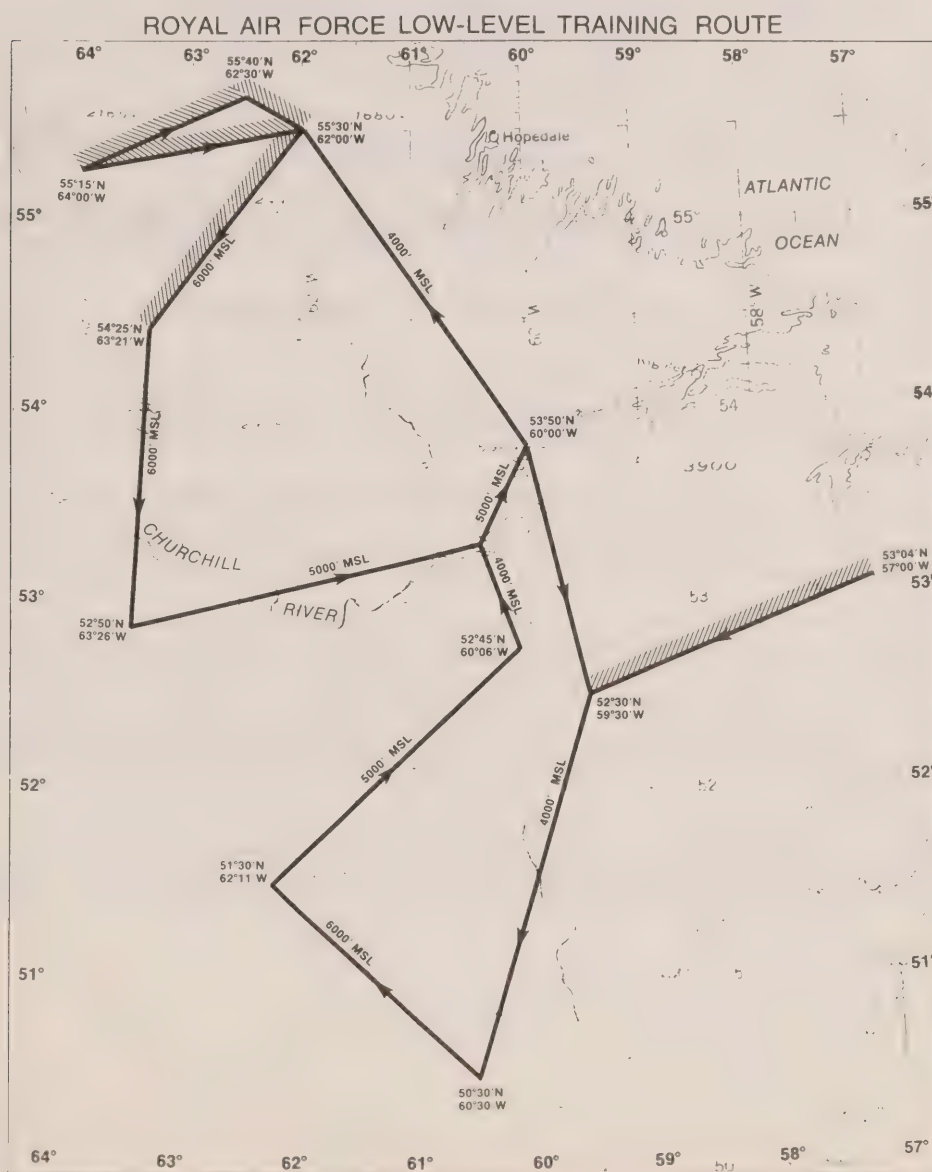


ROYAL AIRFORCE LOW-LEVEL TRAINING ROUTE

Aircraft will follow the route shown below and remain within 4 NM either side of centreline. Aircraft will operate at the MSL altitudes shown, or in VFR weather conditions, may descend to within 250 feet AGL. In the hachured areas depicted, aircraft may be encountered at low-level or descending from FL 230.

Pilots are urged to exercise caution when flying in the vicinity of this route.

Details of daily schedules may be obtained by contacting MOT Aeradio Stations, or calling collect Moncton Area Control Centre, Tel. No. 858-2194.



MILITARY OPERATIONS IN UNCONTROLLED AIRSPACE

Due to extensive military air operations being conducted in uncontrolled airspace under VFR and IFR conditions throughout the whole of Canada, pilots of IFR flights are urged, in the interest of safety, to plan and conduct such flights, insofar as is possible, along controlled airways or air routes.

In many cases, IFR flights have been observed to "cut corners" in the vicinity of the junction of two or more controlled airways. Such practice is in contravention of the Air Regulations and pilots involved are endangering themselves as well as the lives and property of others. Proven instances of this kind will therefore be dealt with accordingly.

POTENTIALLY HAZARDOUS AREAS - NOT DESIGNATED AS DANGER OR RESTRICTED AREAS

Potentially hazardous areas, where the activity is of short duration or where the safety precautions are such as to enable the controlling agency to exercise immediate and positive control of the activity, are not designated as either danger or restricted areas.

Generally the areas are those used for Flight Testing, Rocket Launching, Parachute Jumping, Open Pit Mine Blasting operations, etc.

DANGER - COLLISION RISK BETWEEN AIRCRAFT AND BIRDS

A number of incidents occur each year involving birds striking aircraft in flight. In many of these incidents sufficient damage to the aircraft and injuries to persons are caused to classify them as aircraft accidents.

Where flocks or individual birds are observed at a distance, a course should be adopted that will carry the aircraft well clear. Where the birds are not observed in time to take avoiding action, then the crew should duck their heads below the level of the windscreen. Many incidents have occurred where the bird has come right through the windscreen.

Generally large flocks of migratory birds may be expected, at or below 5,000 feet above ground, during the months of April, May, August, September and November. Mass migration of waterfowl usually follow rivers or chains of lakes or sloughs. In autumn such migrations are also associated with high pressure weather systems and they track from northwest to southeast. In spring they follow the flow of warm air from the south. These generalities do not preclude the possibility of encountering large flocks of ducks or geese under other conditions. The risk of encountering migratory birds will of course be greater in the areas detailed in the pamphlet "Bird Hazards to Aircraft".

In all areas of Canada except coastal British Columbia, the Maritimes and Newfoundland, the risk from migratory birds should be negligible from early December to mid-March. In mild winters the risk may be present in southwestern Ontario.

OBSTRUCTIONS POTENTIALLY HAZARDOUS TO AIRCRAFT OPERATIONS
LISTED BY PROVINCES

NEWFOUNDLAND

TALL STRUCTURES 500 FEET OR HIGHER ABOVE GROUND LEVEL
CONSIDERED POTENTIALLY HAZARDOUS TO AIRCRAFT OPERATIONS

<u>AREA</u>	<u>STRUCTURE</u>	<u>SITE LOCATION</u>		<u>HEIGHT ABOVE GRADE</u>	<u>HEIGHT ABOVE SEA LEVEL</u>
		<u>LAT. N.</u>	<u>LONG. W.</u>		
Comfort Cove, Nfld.	Decca Tower	49°21'	54°52'	600'	630'
Northern Arm, Nfld.	TV Tower	49°11'51"	55°22'05"	650'	1100'
Port Rexton, Nfld.	TV Tower	48°26'27"	53°21'25"	550'	1034'
Trepassey, Nfld.	Loran C Antenna	46°46'30"	53°10'30"	1350'	1785'

NOVA SCOTIA

TALL STRUCTURES 500 FEET OR HIGHER ABOVE GROUND LEVEL
CONSIDERED POTENTIALLY HAZARDOUS TO AIRCRAFT OPERATIONS

<u>AREA</u>	<u>STRUCTURE</u>	<u>SITE LOCATION</u>		<u>HEIGHT ABOVE GRADE</u>	<u>HEIGHT ABOVE SEA LEVEL</u>
		<u>LAT. N.</u>	<u>LONG. W.</u>		
Barneys River, N.S.	CFXU TV Tower	45°33'	62°16'	503'	1503'
Giezers Hill, N.S.	CJGH TV Tower	44°39'06"	63°39'52"	648'	1122'
Halifax, N.S.	CBHT Radio Tower	44°39'01"	63°39'26"	500'	950'
Newport Corners, N.S.	Navy Tower	44°58'	63°59'	550'	756'

Tufts Cove to Lower Sackville - Transmission Line

Pilots flying in this area are cautioned that steel towers carrying three aluminum conductor cables and two steel overhead ground wires have been constructed between Tufts Cove and Lower Sackville.

The heights of the structures vary from 104 to 124 feet above ground level.

PRINCE EDWARD ISLAND

TALL STRUCTURES 500 FEET OR HIGHER ABOVE GROUND LEVEL
CONSIDERED POTENTIALLY HAZARDOUS TO AIRCRAFT OPERATIONS

<u>AREA</u>	<u>STRUCTURE</u>	<u>SITE LOCATION</u>		<u>HEIGHT ABOVE GRADE</u>	<u>HEIGHT ABOVE SEA LEVEL</u>
		<u>LAT.</u>	<u>LONG. W.</u>		
Charlottetown, P.E.I.	CFCY TV Tower	46°13'	63°20'	583'	933'

NEW BRUNSWICK

TALL STRUCTURES 500 FEET OR HIGHER ABOVE GROUND LEVEL
CONSIDERED POTENTIALLY HAZARDOUS TO AIRCRAFT OPERATIONS

AREA	STRUCTURE	SITE LOCATION		HEIGHT ABOVE GRADE	HEIGHT ABOVE SEA LEVEL
		LAT. N.	LONG. W.		
Bon Accord, N.B.	CHSJ TV Tower	46°39'	67°36'	546'	2046'
Campbellton, N.B.	CKAM TV Tower	47°27'	66°25'	775'	2835'
Edmundston, N.B.	CJBR TV Tower	47°23'	68°19'	550'	1750'
Grand Falls, N.B.	CHSJ TV Tower	46°59'	67°31'	585'	2435'

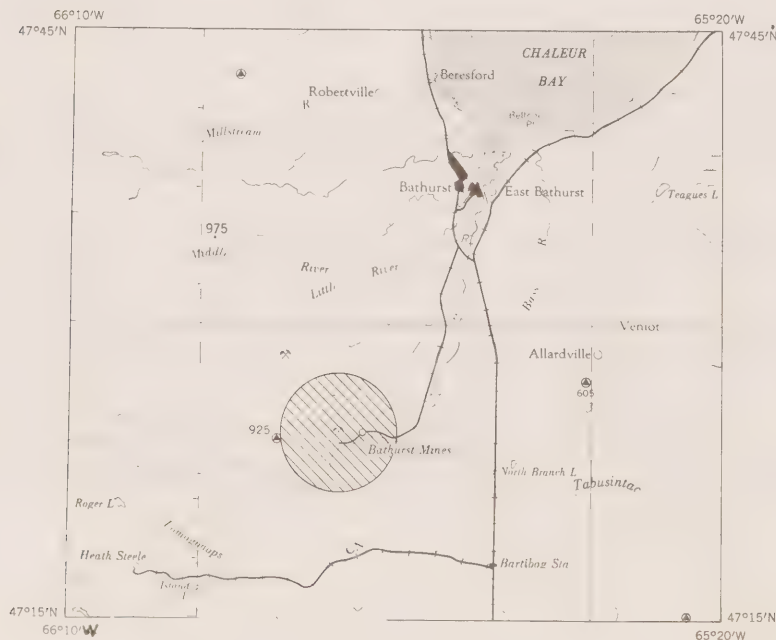
HAZARD TO AIRCRAFT OPERATIONS

BLASTING OPERATIONS

Bathurst Mines, N.B.

Blasting is conducted from time to time in the Brunswick Mining and Smelting complex at 47°24'25"N, 65°49'10"W; approximately 18 miles South-southwest of Bathurst, N.B.

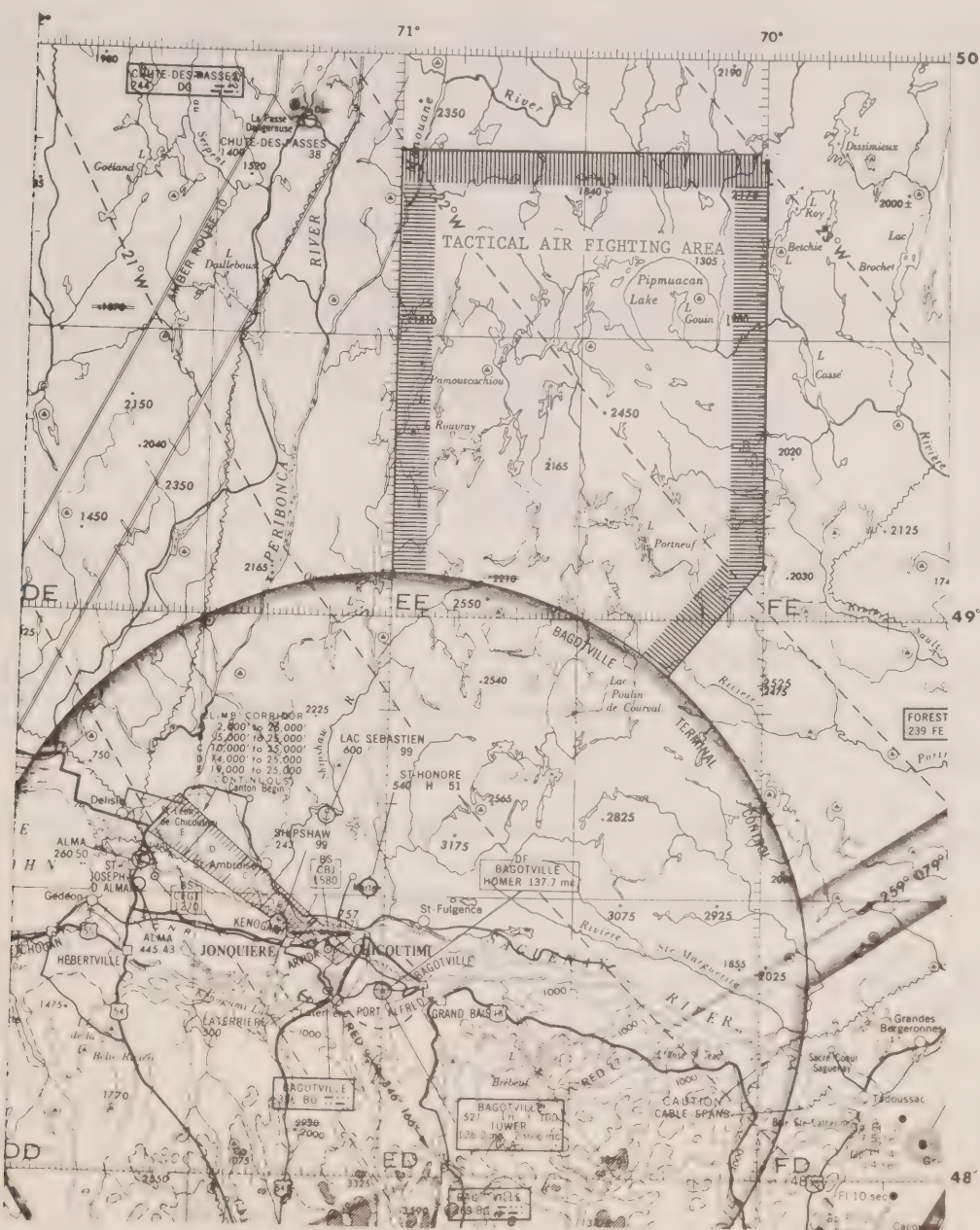
Pilots are cautioned against flying within a three mile radius of this complex at less than 2,000 feet above terrain. The area is depicted on the accompanying sketch.



TACTICAL AIR FIGHTING AREA - BAGOTVILLE, QUEBEC

High speed jet aircraft carry out air fighting exercises over the area depicted on the accompanying chart during daylight hours Mondays through Fridays inclusive. These exercises are conducted VFR and 1000-on-top between 3000 feet AGL and FL 450.

Pilots who cannot avoid flying over the area depicted are urged to exercise vigilance when flying within this airspace during the periods indicated.



QUEBEC

TALL STRUCTURES 500 FEET OR HIGHER ABOVE GROUND LEVEL
CONSIDERED POTENTIALLY HAZARDOUS TO AIRCRAFT OPERATIONS

AREA	STRUCTURE	SITE LOCATION		HEIGHT	HEIGHT ABOVE
		LAT. N.	LONG. W.	ABOVE GRADE	SEA LEVEL
Havre St. Pierre, Que.	Micro-wave Tower	50°16'15"	63°40'44"	575'	645'
Ile d'Orleans, Que.	CBVT TV Tower	46°52'	71°05'	554'	979'
Malartic, Que.	CFCL TV Tower	48°11'58"	78°07'22"	583'	1100'
Montreal, Que.	CBF Radio Tower	45°49'	73°18'	596'	622'
Montreal, Que.	CBM Radio Tower	45°26'	73°11'	532'	642'
Rimouski, Que.	CJBR Radio Tower	48°27'	68°35'	504'	604'
Rouyn, Que.	CKRN TV Tower	48°16'	79°03'	730'	1876'
St. Augustin, Que.	Micro-wave Tower	51°14'12"	58°38'30"	525'	815'
St. Remi, Que.	CJAD Tower	45°15'	73°31'	673'	923'
Temiskaming, Que.	CBFST 1 Tower	46°38'	79°04'	554'	1854'
Trois Rivières, Que.	CKTM TV Tower	46°52'	72°39'	1085'	1660'

FLIGHT-TEST AREA (NORTH OF MONTREAL)

To facilitate and expedite the flight-testing of high performance military aircraft a "Temporary Flight-Test Area" within the bound of the following geographical co-ordinates has been established.

47°52'25"N	74°21'15"W
46°30'00"N	73°48'00"W
46°11'20"N	73°44'15"W
46°03'30"N	74°09'30"W
47°22'00"N	76°25'00"W

to the point of beginning

Flight-test programmes in the area will be carried out in accordance with the following:

- They will be limited to daylight hours only.
- They will be conducted in VFR weather only.
- They may occupy airspace from the surface up to and including FL 230.
- Supersonic flights will be made at altitudes 17,000 feet and above and will be limited to the northern extremities of the area only.
- Flights at a low altitude will be limited to a selected area within the larger area.
- All flights will be monitored by GCI radar at all times.

In view of the nature of the operations which will be carried out in this area, all operators and pilots are advised that extreme caution should be exercised when flying within the area during daylight hours.

The area is shown on relevant maps and charts.

HAZARDS TO AIRCRAFT OPERATIONS

Highwater, Que.

All operators and pilots are notified that firings of aeroballistic vehicles will take place in the vicinity of Highwater, Que., intermittently throughout the year.

Dependent on the characteristics of each vehicle, the ascent and descent paths may cross all altitudes up to approximately 250,000 feet during a period not exceeding 15 minutes from the time of launch. The point of launching and the point of impact will lie within the following area: from 45°00'30"N, 72°27'36"W, thence westerly along the Canadian/U.S. boundary to 45°00'27"N, 72°33"W, thence to 45°01'44"N, 72°33'W, thence to 45°01'44"N, 72°27'36"W, thence to point of beginning.

Insofar as it is feasible, radar, together with other devices and methods, will be used to exercise surveillance over the area during the operations in question and all practicable safety precautions will be taken. No vehicle will be launched if it is known that any aircraft is likely to be in such a position that either the trajectory or impact could occasion a hazard.

A Class I NOTAM will be issued approximately 24 hours in advance of each launch. The airspace associated with the area designated will be released as soon as possible after impact is confirmed or if the time of launch is delayed for an appreciable period, or if the operation is abandoned for any reason. Every effort will be made to ensure minimum interference with normal aviation activities in the area.

In view of the limited duration of each vehicle flight and the safety precautions which will be adopted, it is considered unnecessary for the area to be designated as a Danger Area. Operators and pilots should watch for Class I NOTAM pertaining to vehicle launches, and, before traversing any part of the airspace over the area described above, pilots should communicate with Montreal Air Traffic Control Centre, either directly or via the normal communications network.

Shawville, Que.

Blasting is likely to occur at any time between 1300 GMT and 2200 GMT, daily at the Hilton Mine, 45°30'N, 76°18'W, approximately ten miles southeast of Shawville, Que.

Pilots are cautioned against flying within a three mile radius of this mine at less than 1,500 feet above terrain.

RESTRICTED AREA - LAKE ST. PETER, QUE.

Pilots are reminded that continuous testing of small arms, artillery and rocket ammunition takes place in the Lake St. Peter Restricted Area, map reference CYR 606, and prior permission must be obtained from the Inspection Services Proving Establishment at Nicolet, Que., before overflying this area.

This Restricted Area is located seven miles south of the Trois Rivières Airport (46°21'N, 72°41'W) and pilots approaching to land or operating in the vicinity of this airport are cautioned to remain well clear of Lake St. Peter.

ONTARIO

TALL STRUCTURES 500 FEET OR HIGHER ABOVE GROUND LEVEL
CONSIDERED POTENTIALLY HAZARDOUS TO AIRCRAFT OPERATIONS

AREA	STRUCTURE	SITE LOCATION		HEIGHT ABOVE GRADE	HEIGHT ABOVE SEA LEVEL
		LAT. N.	LONG. W.		
Agincourt, Ont.	CFTO TV Tower	43°47'	79°16'	890'	1440'
Barrie, Ont.	CKVR TV Tower	44°21'	79°42'	704'	1704'
Clarkson, Ont.	Brick Company Chimney	43°29'	79°37'	556'	833'
Copper Cliff, Ont.	Smelter Chimney	46°29'	81°03'	554'	1505'
Copper Cliff, Ont.	Chimney	46°28' 47"	81°03' 23"	1250'	2176'
Cornwall, Ont.	CJSS TV Tower	45°11'	74°32'	700'	900'
Dryden, Ont.	CBWAT 1 Tower	49°46'	92°41'	531'	1845'
Fort Frances, Ont.	CBWAT 3 Tower	48°49'	93°53'	602'	1942'
Geraldton, Ont.	CBLAT TV Tower	49°42' 47"	86°46' 40"	595'	1745'
Hamilton, Ont.	CHCH TV Tower	43°12'	79°46'	1093'	1718'
Hearst, Ont.	CHCH TV Tower	49°39'	93°31'	503'	1403'
Kingston, Ont.	CKWS TV Tower	44°10'	76°26'	826'	1151'
Kitchener, Ont.	CKCO TV Tower	43°24'	80°38'	655'	2090'
London, Ont.	CFPL TV Tower	42°57'	81°16'	980'	1894'
London, Ont.	CATV TV Tower	42°56'	81°21'	515'	1440'
Manitouwadge, Ont.	CATV TV Tower	49°08' 21"	85°49' 23"	589'	2019'
Milton, Ont.	CATV TV Tower	43°36' 05"	79°47' 50"	508'	1198'
Manticoke, Ont.	Chimney	42°47' 46"	88°03' 00"	650'	1235'
Ottawa, Ont.	CBOT TV Tower	45°24'	75°45'	501'	701'
Pembroke, Ont.	CBOT TV Tower	45°50'	77°10'	580'	1042'
Peterborough, Ont.	CHEX TV Tower	44°20'	78°18'	800'	1800'
Sarnia, Ont.	Chimney	42°47' 48"	82°28' 06"	550'	1135'
Sturgeon Falls, Ont.	CBFST TV Tower	46°25'	79°56'	537'	1387'
Sudbury, Ont.	CKSO TV Tower	46°30' 02"	81°01' 16"	993'	2024'
Timmins, Ont.	CBOFT TV Tower	48°28'	81°17'	555'	1689'
Timmins, Ont.	CFCL TV Tower	48°29'	81°20'	528'	1560'
Thunder Bay, Ont.	CFCJ TV Tower	48°31'	89°07'	707'	2307'
Toronto, Ont.	Office Building	43°38' 51"	79°22' 54"	801'	1079'
Toronto, Ont.	CJBC TV Tower	43°34'	79°49'	647'	1326'
Toronto, Ont.	CBLT TV Tower	43°40'	79°23'	500'	844'
Warton, Ont.	TV Tower	44°56' 41"	81°07' 55"	789'	1639'
Windsor, Ont.	CKLW TV Tower	42°19'	83°03'	650'	1250'
Wingham, Ont.	CKNX TV Tower	44°05'	81°12'	650'	1800'

HAZARDS TO AIRCRAFT OPERATIONS

Sudbury, Ont.

Open-mine blasting is conducted daily at $46^{\circ}51'N$, $81^{\circ}02'W$, approximately 19 statute miles northwest of Sudbury Airport, as shown in the following sketch.

In the interest of safety, pilots operating in accordance with the Visual Flight Rules should exercise caution against overflying this location below 4000 feet ASL (3000 feet above terrain) within a three mile radius.

Pilots operating in accordance with the Instrument Flight Rules on Blue Airway 10 between the Sudbury NDB and the Welcome Intersection and on Victor Airway 5 between the Sudbury VOR and the area in the vicinity of Welcome Intersection will not receive ATC clearance to fly below 4000 feet ASL while blasting is in progress.



Timagami, Ont.

Blasting operations are conducted on a continuous unscheduled basis at $47^{\circ}04'N$, $75^{\circ}50'W$, approximately 3 statute miles west of Timagami, Ont. In the interest of safety, pilots are cautioned against flying over this area at less than 3000 above ground.

MANITOBA

TALL STRUCTURES 500 FEET OR HIGHER ABOVE GROUND LEVEL
CONSIDERED POTENTIALLY HAZARDOUS TO AIRCRAFT OPERATIONS

AREA	STRUCTURE	SITE LOCATION		HEIGHT	HEIGHT ABOVE
		LAT. N.	LONG. W.	ABOVE GRADE	SEA LEVEL
Baldy Mountain, Man.	CKOS TV 1 Tower	51°28'	100°43'	572'	3297'
Brandon, Man.	CKX TV Tower	49°50'	99°59'	606'	1909'
Fisher Branch, Man.	CKX TV Tower	51°04' 50"	97°38' 55"	598'	1418'
St. Norbert, Man.	CFMW FM Tower	49°45'	97°09'	555'	1319'
Ste. Agathe, Man.	CJAY TV Tower	49°35'	97°10'	1000'	1775'
Steinbach, Man.	Communications Relay Tower	49°31'	96°40'	550'	1430'
Thompson, Man.	Smelter Chimney	55°43'	97°52'	500'	1206'
Carman, Man.	CBW Radio Tower	49°31'	97°58'	570'	1430'
Winnipeg, Man.	CBC TV Tower	49°46'	97°31'	1064'	1849'

ROCKET LAUNCHES FROM CHURCHILL

All operators and pilots are notified that test-firings of rocket propelled vehicles will take place from the vicinity of Churchill, Manitoba, intermittently throughout the year, with the main activity confined to the period November 1st to July 15th annually.

Dependent on the characteristics of each rocket, the trajectory will cross all altitudes up to approximately 600,000 feet during a period not exceeding 30 minutes from the time of launch. The point of impact will lie within one of the following areas;

- AREA "A" Is delineated by a line commencing at a point 58°56'N, 94°00'W; thence proceeding due South to 57°18'N, 94°00'W; thence East to a point 57°20'N, 91°08'W; thence to 57°04'N, 90°00'W; thence due North to a point 59°46'30"N, 90°00'W; thence to the point of beginning.
- AREA "B" Is delineated by a line commencing at a point 59°46'30"N, 90°00'W; thence proceeding South to 57°04'N, 90°00'W; thence to 55°13'N, 82°30'W; thence to 55°28'N, 82°00'W; thence proceeding North to a point 61°27'N, 82°00'W; thence to the point of beginning.
- AREA "C" Is delineated by a line commencing at a point 55°28'N, 82°00'W; thence proceeding to 58°55'N, 78°28'W; thence due North to 63°15'N, 78°28'W; thence Westerly to 63°15'N, 83°00'W; thence to 60°21'N, 94°00'W; thence to 58°56'N, 94°00'W; thence to 59°46'30"N, 90°00'W; thence to 61°27'N, 82°00'W; and thence Southerly to the point of beginning.
- AREA "D" Is delineated by a line commencing at a point 63°15'N, 83°00'W; thence proceeding to 63°15'N, 90°00'W; thence to a point 60°21'N, 94°00'W; thence to the point of beginning.
- AREA "E" Is delineated by a line commencing at a point 57°18'N, 94°00'W; thence to 56°00'N, 94°00'W; thence to 56°00'N, 90°20'30"W; thence to 56°50'45"N, 88°59'20"W; thence to 57°04'N, 90°00'W; thence to 57°20'N, 91°08'W; thence to the point of beginning.

It is planned that the majority of rockets launched will impact at a point within AREA "A". However, on occasion impact AREAS "B", "C", "D" and "E" will be required, Insofar as it is feasible, radar and other devices and procedures will be used to exercise surveillance over the areas during the range operations. No rocket will be launched if it is known that an aircraft or ship is likely to be in a position as to be endangered by the trajectory or impact of a rocket.

A Class I NOTAM will be issued 24 hours in advance of each launch which will indicate the area within which the impact point lies. The airspace associated with the areas designated in Class I NOTAM will be released as soon as possible after impact is confirmed or if the operation is aborted. Every effort will be made to ensure minimum interference with aviation activities in the Hudson Bay region.

In view of the limited duration of each rocket and the safety precautions which are in effect, it is considered unnecessary for the areas to be designated as Danger Areas. Operators and pilots should watch for Class I NOTAM pertaining to rocket launches, and before traversing any part of the airspace over the areas described above, pilots should communicate with Churchill Radio or Winnipeg Air Traffic Control Centre, either directly or via the normal communications network.

SASKATCHEWAN

TALL STRUCTURES 500 FEET OR HIGHER ABOVE GROUND LEVEL CONSIDERED POTENTIALLY HAZARDOUS TO AIRCRAFT OPERATIONS

<u>AREA</u>	<u>STRUCTURE</u>	<u>SITE LOCATION</u>		<u>HEIGHT ABOVE GRADE</u>	<u>HEIGHT ABOVE SEA LEVEL</u>
		<u>LAT. N.</u>	<u>LONG. W.</u>		
Carlyle Lake, Sask.	CKOS TV 2 Tower	49°44'	102°17'	736'	3261'
Colgate, Sask.	CKCK TV 1 Tower	49°26'	103°48'	581'	2506'
Green Water Lake, Sask.	CKBI TV 3 Tower	52°28'	103°30'	531'	2652'
Marquis, Sask.	CKCK TV 3 Tower	50°39'	105°46'	810'	2785'
Moose Jaw, Sask.	CHAB TV Tower	50°23'	105°56'	580'	2980'
Prince Albert, Sask.	CKBI TV Tower	53°03'	105°51'	584'	2334'
Regina, Sask.	CKCK TV Tower	50°27'	104°30'	670'	2570'
Regina, Sask.	CHRE TV Tower	50°29'	104°30'	736'	2693'
Saskatoon, Sask.	CFQC TV Tower	52°11'	106°23'	650'	2610'
Stranraer, Sask.	CFQC TV 1 Tower	51°41'	108°31'	570'	3123'
Willowbunch, Sask.	CKCK TV 2 Tower	49°21'	105°38'	677'	3577'
Weyburn, Sask.	COAX TV Tower	49°39'	103°51'	970'	2885'
Wynyard, Sask.	CKOS TV 3 Tower	51°42'	104°18'	531'	2556'
Yorkton, Sask.	CKOS TV Tower	51°12'	102°44'	554'	2304'

ALBERTA

TALL STRUCTURES 500 FEET OR HIGHER ABOVE GROUND LEVEL CONSIDERED POTENTIALLY HAZARDOUS TO AIRCRAFT OPERATIONS

<u>AREA</u>	<u>STRUCTURE</u>	<u>SITE LOCATION</u>		<u>HEIGHT ABOVE GRADE</u>	<u>HEIGHT ABOVE SEA LEVEL</u>
		<u>LAT. N.</u>	<u>LONG. W.</u>		
Ashmont, Alta.	CFRN TV Tower	54°08'	111°36'	628'	2754'
Athabasca, Alta.	CBXT TV 1 Tower	54°46'	113°20'	530'	2455'
Bonnyville, Alta.	CHSA TV 2 Tower	54°12'	110°50'	579'	2554'
Calgary, Alta.	CHCT TV Tower	51°04'	114°16'	668'	4843'
Calgary, Alta.	Restaurant Tower	51°02'39"	114°03'43"	613'	4051'
Camrose, Alta.	TV Tower	53°22'20"	113°07'44"	700'	2525'
Drumheller, Alta.	CFCN TV 1 Tower	51°34'	112°20'	579'	4079'
Edmonton, Alta.	CBXT TV Tower	53°31'	113°17'	680'	3080'
Grande Prairie, Alta.	CBXAT TV Tower	55°29'	118°45'	542'	3608'
Grande Prairie, Alta.	TV Tower	55°27'57"	118°45'32"	681'	3681'
Lethbridge, Alta.	CJLH TV Tower	49°43'	112°48'	630'	3650'
Lloydminster, Alta.	CHSA TV Tower	53°24'	110°01'	671'	2821'
Pincher Creek, Alta.	Smokestack	49°18'30"	113°59'58"	500'	5457'
Pivot, Alta.	CHAT TV 1 Tower	50°24'	110°03'	529'	3255'
Red Deer, Alta.	TV Tower	52°17'57"	113°41'47"	630'	3250'

TRANSMISSION LINE CROSSINGS

BRITISH COLUMBIA

The first portion of the following table does not include all cable crossings but only the more hazardous crossings on the West Coast not published on charts. Pilots should take appropriate precautions when flying in the vicinity of these crossings.

TRANSMISSION LINE	SITE LOCATION LAT. LONG.	SPAN	HIGHEST PART OF SUPPORTING STRUCTURES ASL	LOWEST POINT SAG IN CABLE ABOVE SURFACE	TOWERS OBSTRUCTION PAINTED	SHORE MARKERS	CONDUCTORS OR CABLES MARKED
Alice Arm Nass River	55°22'N 129°02'W	2500'	452'	30'	x		x
Barnett	49°17'30"N 122°55'00"W (note: two crossings at Barnett separated by 1/2 mile)	2868'	334'	160'	x		x
Barnett	49°17'30"N 122°54'30"W	3268'	540'	160'	x		x
Boston Bar	49°52'N 121°27'W	1019'	400'	100'	x		x
Bridge River	50°47'10"N 122°13'55"W	1964'	2424'	38'	x		x
Bridge River Kelly Lake	50°46'N 121°53'W	2235'	1022'	110'		markings unknown	
Clinton	51°05'N 121°36'W	1700'	3400'	300'	x		x
Cottonwood River	59°09'N 122°23'W	6014'	2562'	206'			x
Finlayson Arm	48°30'05"N 123°32'40"W (note: two spans in parallel at Finlayson Arm)	3450'	830'	240'	x		x
Fraser River (at Bridge River)	50°45'N 121°56'W	2201'	1132'	348'	x		x
Harrison River	49°18'10"N 121°48'30"W	3694'	900'	560'	x	x	x
Indian Arm Bedwell Bay	49°19'40"N 122°55'30"W	9673'	529'	160'	x		x
Kamloops	50°39'30"N 120°02'15"W	1462'	1208'	35'	x	x	x
Kamloops Spence Bridge	50°25'30"N 121°20'00"W	1034'	1210'	130'	x		x

TRANSMISSION LINE	SITE LOCATION LAT. LONG.	SPAN	HIGHEST PART OF SUPPORTING STRUCTURES ASL	LOWEST POINT SAG IN CABLE ABOVE SURFACE	TOWERS OBSTRUCTION PAINTED	SHORE MARKERS	CONDUCTORS OR CABLES MARKED
Lillooet	50°35'N 121°46'W		400'	120'	x		x
Lower Arrow Lake	49°54'N 118°03'W	5625'	2635'	116'	x		x
Lytton Fraser River	50°46'N 121°38'W	2360'	1159'	348'	x		x
Peace River	56°04'N 121°50'W			20'			x
Sansum Narrows	48°49'40"N 123°35'00"W	6841'	959'	200'	x	x	x
Seton Lake	50°43'N 122°16'W	4400'	1572'	65'	x	x	x
Seymour Narrows	50°07'55"N 125°21'10"W	3228'	373'	188'	x		x
Skeena River	54°10'40"N 129°37'10"W	6000'	100'	30'	x		x
Skeena River	54°12'N 129°55'W	8000'	150'	35'	x		x
<u>ALBERTA</u>							
Carcajou	57°46'58"N 117°05'55"W				x		x
Elk Point N. Sask. River	53°51'30"N 110°56'30"W				x		
Peace River	56°51'45"N 117°19'10"W				x		x
Smoky River (3 crossings)	54°14'30"N 118°31'25"W				x		
	53°53'30"N 119°09'40"W				x		
	53°57'12"N 119°09'15"W				x		
<u>NEWFOUNDLAND</u>							
Grand Lake (Glover Island)	48°52'N 57°32'W		550'	75'	x	x	
Grand Lake (Glover Island)	48°52'N 57°37'W		1175'	75'	x	x	
Northwest River (Cable Car Crossing)	53°31'N 60°09'W	850'	75'	14'			

AIRSPACE FOR PROVING RANGE

Esquimalt, B.C.

A mortar calibration and proving range has been in intermittent use at Esquimalt, B.C. for some time. However, with the improved characteristics of the equipment used, a need now exists for allocation of airspace to that range, which will be activated by Class I NOTAM for protection of any low flying aircraft in the vicinity.

Airspace is accordingly designated as a DANGER area to a height of 2,000 feet for occasional use in the following area:

From the head of Canadian Forces Jetty "F" (48°26'29.5"N, 123°26'45.5"W) on a bearing of 110° for 6.4 cables (approx. 4,000 feet) at a width of 1,000 feet, centred on the bearing line.

SPECIAL NOTICES

GLACIER NATIONAL PARK - ILLECILLEWAET VALLEY

Pilots are cautioned to avoid flying over the Illecillewaet Valley during winter months as Howitzer type guns will be firing periodically to precipitate snow slides.

PARACHUTE JUMPING AREAS

Pilots are cautioned to either avoid the following areas when parachute jumping is in progress or to exercise extreme caution when flying in these areas at altitudes where parachutists might be encountered.

Abbotsford, B.C.

Daily from 1600 GMT until dark, descents may be made from 12,500 feet ASL. The jump area is located approximately $5\frac{1}{2}$ miles north of the Abbotsford Airport at 49°06'N, 122°20'W, and is marked by a large orange cross.

When parachute jumps are made from above 5,000 feet ASL within the Abbotsford Jump Area, the following procedures will apply:

1. Parachute jumps shall be made from aircraft which are equipped with a serviceable coded transponder.
2. The aircraft shall maintain continuous communication with the Vancouver Centre on 119.7 MHz.
3. A VFR flight plan shall be filed at least 30 minutes prior to take-off. The remarks portion of the flight plan shall contain complete details of the exercise including proposed times of the jumps.
4. The Vancouver Centre will advise the pilot when jumping may commence. After a visual check that the area is clear of VFR traffic, the pilot may then permit the parachutists to jump.
5. The aircraft shall remain over the jump area until the parachutists have landed.

Abbotsford, B. C. (Sports Aviation and Training Area)

The area bounded by a line beginning at a point on the Canadian Pacific Railway at 49°07'00"N, 122°17'25"W, thence southerly along the Canadian Pacific Railway to a point on the Abbotsford positive control zone boundary at 45°05'05"N, 122°17'00"W, thence westerly via the northern boundary of the Abbotsford positive control zone boundary to 49°06'05"N, 122°29'30"W, thence northerly to a point on the Canadian National Railway at 49°09'55"N, 122°29'30"W, thence easterly along the Canadian National Railway to the point of beginning. This Sports Aviation and Training Area has been designated a Danger Area. Surface to 5,500 feet ASL, continuous-daylight.

Langley, B. C.

The area bounded by a line beginning at 49°06'20"N, 122°40'05"W, to 49°02'45"N, 122°40'05"W, to 49°02'45"N, 122°53'15"W, to 49°06'20"N, 122°53'15"W, to the point of beginning. Surface to 2,500 feet ASL, continuous-daylight.

Pitt Meadows, B. C.

The area bounded by a line beginning at 49°21'40"N, 122°29'20"W, to a point on the Canadian Pacific Railway at 49°10'25"N, 122°29'20"W, thence westerly along the Canadian Pacific Railway to a point on the Pitt Meadows positive control zone boundary at 49°12'45"N, 122°37'20"W, thence anti-clockwise via the Pitt Meadows positive control zone boundary to a point on Highway #7 at 49°15'20"N, 122°44'35"W, thence westerly along Highway #7 to 49°15'30"N, 122°45'20"W, to 49°21'40"N, 122°45'20"W, to the point of beginning. Surface to 4,500 feet ASL, continuous-daylight.

GENERAL HAZARDS TO AIRCRAFT OPERATIONS

BLASTING OPERATIONS

The following is a list of locations where open-pit mine or quarry blasting operations are conducted. The blasting operations are considered potentially hazardous to aircraft overflying these locations, as flying rock can attain a maximum height of approximately 3,000 feet above ground. The Ministry of Transport is unable to guarantee the completeness of the list and pilots are therefore warned that other such locations may exist. In addition the locations reported should be accepted by pilots as approximate rather than accurate positions.

In the interest of safety, caution should be exercised against overflying these locations at less than 3,000 feet above ground within a one mile radius or as otherwise indicated.

GENERAL AREA	SITE LOCATION	
	LAT. N.	LONG. W.
Fitz Hugh Sound, B. C. (Koeve River)	51°47'	127°52'
Buttle Lake, B. C.	49°46'	125°20'
Buttle Lake, B. C.	49°42'	127°17'
Texada Island, B. C. (Blubber Bay)	49°47'	124°38'
Texada Island, B. C. (Marble Bay)	49°44'	124°37'
Texada Island, B. C. (Vananda)	49°45'	124°34'
Texada Island, B. C. (Mt. Little Hill)	49°43'	124°35'
Texada Island, B. C. (Welcome Bay)	49°42'	124°35'
Nelson Island (South End)	49°40'	124°06'
Amphitrite Point, B. C.	49°01'	125°28'
Woss Lake, B. C.	50°03'	126°50'
Queen Charlotte Island, B. C. (Jedway)	52°18'	131°15'
Mt. McDame, B. C.	59°19'	129°47'
Cobble Hill, B. C. (9 miles west of Victoria Airport)	48°41'	123°37'
Saturna Island, B. C. (18 miles NE of Victoria Airport)	48°47'	123°06'
Saltspring Island, B. C.	48°52'	123°29'
Pitt Lake, B. C.	49°19'	122°40'
Benson Lake, B. C. (Merry Widow Mtn.)	50°20'	127°16'
Howe Sound, B. C. (McNab Cr.)	49°34'	123°22'
Indian Arm, B. C.	49°28'	122°51'
Agassiz, B. C.	49°13'	121°40'
Agassiz, B. C.	49°15'	121°43'
Agassiz, B. C.	49°18'	121°38'
Oliver, B. C.	49°10'	119°37'
Grand Forks, B. C.	49°04'	118°36'
Duck Lake, B. C.	49°17'	116°36'
Kimberley, B. C.	49°44'	116°01'
Cranbrook, B. C.	49°28'	115°32'
Lake Windermere, B. C.	50°30'	115°52'
Brisco, B. C.	50°49'	116°19'
Ashcroft, B. C.	50°30'	120°59'
Meritt, B. C.	50°10'	120°55'
Kennedy Lake, B. C.	49°03'	125°28'
Endako, B. C.	54°05'	125°00'
Scud River, B. C.	57°20'	131°53'
Francois Lake, (NW end)	54°02'	125°03'
MacDonald Island, B. C.	54°57'	126°11'
Mica Creek Dam, B. C.	52°04'	118°34'
Pinchi Lake, B. C.	54°25'	124°37'
Port Hardy, B. C.	50°36'	127°30'
Peachland, B. C.	49°53'	120°00'

NORTHWEST TERRITORIES

HAZARDS PENDING PUBLICATION ON CHARTS

Cambridge Bay, N. W. T.

Aerial cable crossing Cambridge Bay near RCM Police Detachment (69°07'15"N, 105°01'00"W). Supporting structures and cables are obstruction marked.

Fort Norman, N. W. T.

Aerial cable crossing Great Bear River (64°54'45"N, 125°35'30"W). Supporting structures and cables are obstruction marked.

NOTAM



Special Procedures and Hazards

15/71
16th August

MINISTRY OF TRANSPORT

CANADIAN AIR TRANSPORTATION ADMINISTRATION

Page 1 of 4

SPECIAL PROCEDURES

CALGARY INTERNATIONAL AND SPRINGBANK AIRPORTS AND AIRDRIE AERODROME

(Supplementing and Superseding information concerning Calgary International and Springbank Airports in NOTAM 12/71 and in Flight Information Manual Part 5, as applicable)

General

The close proximity of Calgary International and Springbank Airports and Airdrie Aerodrome, and the extensive VFR and IFR operations with wide variations in aircraft performance characteristics, have necessitated the introduction of special procedures as an interim measure pending the implementation of extended terminal control service. These procedures become effective immediately.

Flight Procedures

The procedures outlined in ANO, Series V, No. 21, entitled "Positive Control Zone Order" apply to the Calgary International and Springbank positive control zones. Additionally, the pilot of each VFR aircraft intending to penetrate that area within a 15 mile radius of the Calgary International Airport is requested to establish communication with the tower and advise his geographical position in relation to a prominent landmark, his altitude and destination. To the extent possible, aircraft not in communication with Calgary tower are requested to remain below 5,500 feet ASL within 15 miles of the Calgary International Airport and when entering the Springbank Positive Control Zone. These procedures are intended to assist ATC in providing pilots with information concerning possible conflicting IFR or VFR traffic.

Sport Aviation and Training Areas

Two Sport Aviation and Training areas have been established and have been depicted on the accompanying chart. The North West area extends upwards from the surface of the earth to and including 8,000 feet ASL. The East area extends upwards from the surface of the earth to 9,500 feet ASL.

IFR aircraft will routinely be cleared above the caps of these areas or clear of the boundaries. It is recommended that pilots of enroute VFR aircraft avoid these areas if practicable.

VFR Routes

VFR routes have been established between the Calgary International and Springbank Airports, and between these airports and the Sport Aviation and Training areas. These routes are capped at 5,500 feet ASL and are depicted on the accompanying chart.

From Calgary Airport to Springbank Airport - remain North of Happy Valley.

From Springbank Airport to the Calgary Airport - remain South of Happy Valley.

From Springbank Airport to the North-west training area - remain east of Cochrane.

From the North-west training area to Springbank Airport - remain west of Cochrane.

From Calgary Airport to the North-west training area - proceed direct Bears Paw Dam direct the North-west training area.

From the North-west training area to Calgary Airport - return West of Cochrane direct Springbank Airport direct Happy Valley direct Calgary Airport.

From Calgary Airport to the East training area - proceed direct Delacour direct the East training area.

From the East training area to the Calgary Airport - return direct Kathryn direct Calgary Airport.

IFR Arrivals

To minimize possibilities of conflict between VFR and IFR aircraft, arriving IFR aircraft will not normally be cleared for descent below 6,000 feet ASL until they are established in the final approach area and are within 12 nautical miles of the Calgary International Airport.

CALGARY INTERNATIONAL AIRPORT

Traffic Circuits

Unless otherwise authorized by Air Traffic Control, right hand circuits are in effect for runway 34 and the associated grass area.

VFR Departure Routes

Pilots of departing aircraft, unless otherwise advised by the tower, should leave the control zone via one of the following routes:

To the north - proceed on an approximate track of 320°M from the airport until abeam Airdrie.

To the west - proceed direct Bears Paw Dam.

To the south - proceed direct Shepard.

To the east - proceed direct Delacour.

VFR Arrival Routes

Pilots of aircraft arriving from the north, unless otherwise advised by ATC, should enter the Control zone after passing east of Airdrie Airport and the large smoke stacks 7 miles North-east of the Calgary Airport.

Pilots of aircraft arriving from other directions will be given routing instructions by Calgary tower as required.

S/VFR Helicopter Departure - Arrival Corridor

Pilots of helicopters will routinely be assigned to a corridor one mile wide, capped at 300 feet above ground level which extends in a direct line from the Calgary Airport South-easterly over two large white storage tanks located 2 miles South-east, to a point one mile north of the built-up area at the south end of Chestermere Lake. (See accompanying chart)

Noise Abatement - Arrival and Departure Procedures

Providing the ceiling is 1,500 feet or more above ground, the minimum circuit height for all aircraft shall be 4,500 feet ASL.

Pilots of all Turbo-jet aircraft departing runways 16 and 25 shall climb on runway heading to 6,000 feet ASL before commencing turns.

SPRINGBANK AIRPORT

Right hand circuits are in effect for runways 16 and 25.

AIRDRIE AERODROME

General

No flying training is to be carried out at Airdrie Aerodrome.

Use of this aerodrome is restricted to aircraft having a gross weight of 12,500 lbs. or less.

Traffic Circuits

Circuit height shall be 4,200 feet ASL or below. Right hand circuits are in effect for runways 34, 28 and 22.

Arrivals

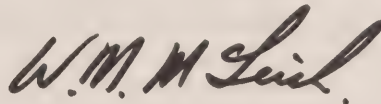
Aircraft intending to land at Airdrie Aerodrome are to contact Calgary Tower before penetrating the area within 15 nautical miles of Calgary International Airport and unless otherwise advised enter the Airdrie Traffic Circuit at or below 4,200 feet ASL.

Departures

Pilots of aircraft departing from Airdrie Aerodrome in an easterly or North-easterly direction are to monitor Calgary Tower and remain below 4,500 feet ASL until at least 15 nautical miles from the Calgary International Airport.

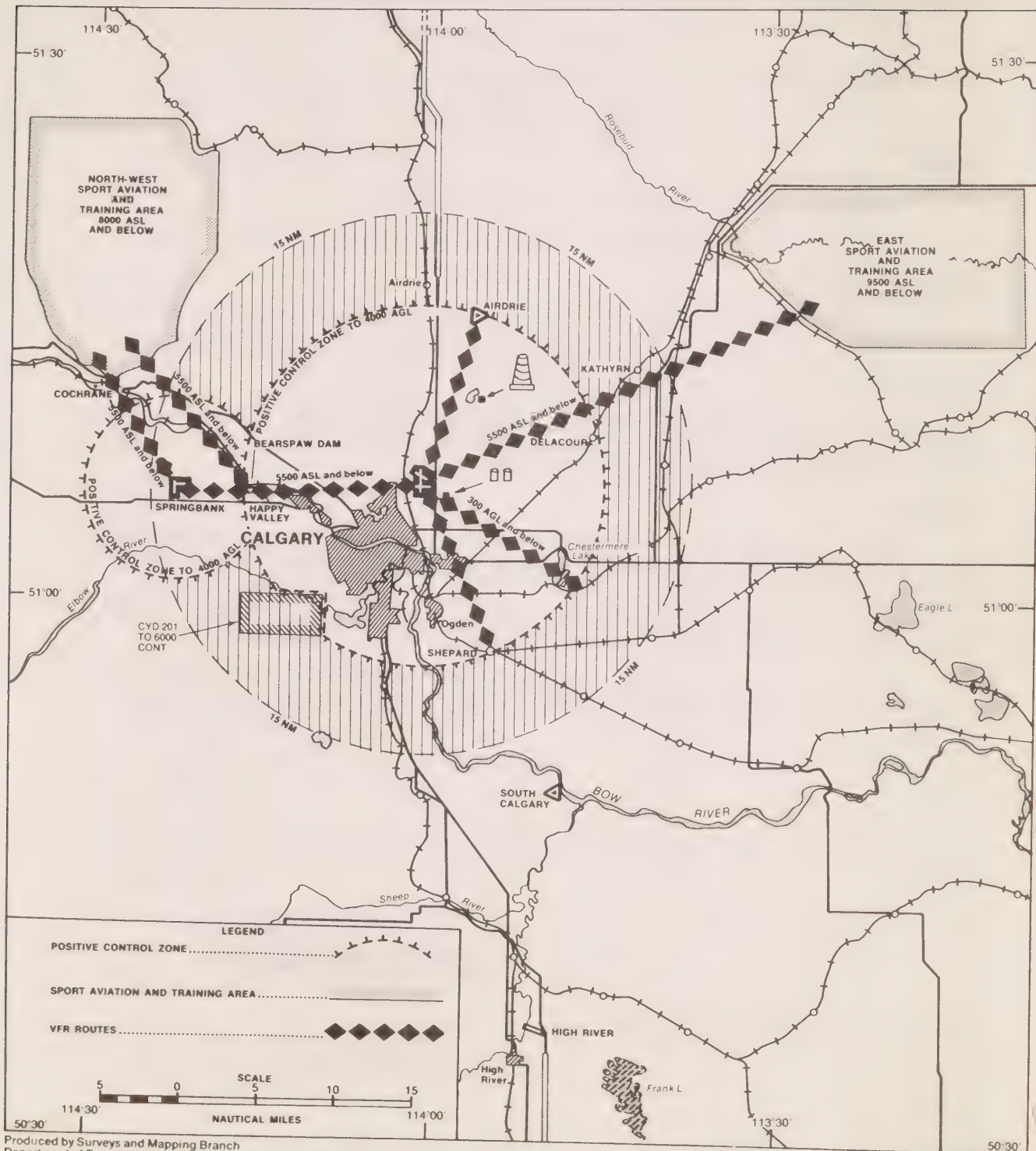
Pilots of aircraft departing from the Airdrie Aerodrome in any other direction must establish radio contact with Calgary Tower and obtain approval.

Pilots of all aircraft taking off from runway 22 should complete a turn within one mile of the aerodrome in order to remain clear of the approach area for runway 16 at Calgary International Airport.



W.M. McLeish,
Director, Civil Aviation

SPECIAL PROCEDURES - CALGARY TERMINAL AREAS



NOTAM16/71
23rd August**MINISTRY OF TRANSPORT**

CANADIAN AIR TRANSPORTATION ADMINISTRATION

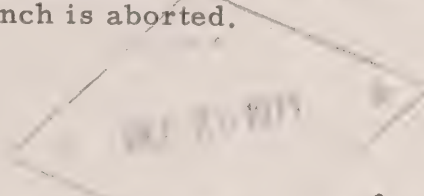
Page 1 of 2

ROCKET LAUNCHES RESOLUTE N.W.T.

During the periods September - November 1971 and April - May 1972, the NRC/NASA Atmospheric Research Group will launch four rockets from a site located at 74°43'N, 94°58'W, Resolute Bay, N.W.T.

The proposed program consists of the launching of 4 Black Brant III B rockets, two of which will be launched each period. The rockets will be fired on an initial trajectory 86° in elevation, in nominal azimuth of 300° true. They will reach an altitude of 125 nautical miles and impact some 60 nautical miles down range. The time of flight of each rocket will be about 460 seconds.

Class I NOTAM will be issued by Resolute Aeradio 24 hours in advance of each launch. The airspace associated with the area designated on the accompanying chart will be released as soon as possible after impact is confirmed or if the launch is aborted.


W.M. McLeish

W.M. McLeish,
Director, Civil Aviation



*Canada
Civil Aviation Branch
Notices to airmen*



NOTAM

SUMMARY
1st. October 1971
(Supersedes all
Previous Summaries)

MINISTRY OF TRANSPORT

CANADIAN AIR TRANSPORTATION ADMINISTRATION

Page 1 of 2

The following NOTAM up-date the 1971 edition of the Flight Information Manual:

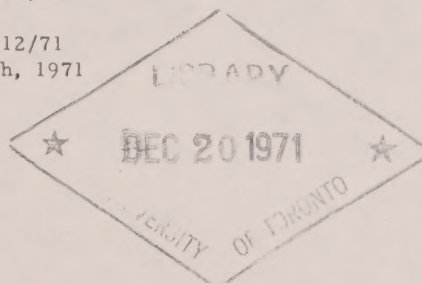
- 1/71 AIR TRAFFIC CONTROL - VHF Direction Finding Service
- 5/71 AIR TRAFFIC CONTROL - Air Traffic Control Procedures
- 6/71 GENERAL - Fire Fighting Operations
- 8/71 AIR TRAFFIC CONTROL - Transponder Operation
- 9/71 AERODROMES - LAND - Calgary Int'l L - runway repairs
- 11/71 HAZARDS to AIR NAVIGATION - Low Level Training Flights
- 12/71 SPECIAL PROCEDURES and HAZARDS - Aerodromes and Enroute
- 14/71 HAZARDS to AIR NAVIGATION - Military Exercise
- 15/71 SPECIAL PROCEDURES and HAZARDS - Calgary, Springbank and Airdrie
- 16/71 SPECIAL PROCEDURES and HAZARDS - Rocket Launches - Resolute

NOTE 1: The following "A" Series Class 11 NOTAM are in effect:

- A-1/71 AIR TRAFFIC CONTROL - Composite Separation in the North Atlantic Region
- A-2/71 SPECIAL PROCEDURES - AIREP - Meteorological Observations
- A-3/71 AIR TRAFFIC CONTROL - Preferential Route System - Northern Control Area

NOTE 2: The following NOTAM have been superseded or are time expired:

- 5/68 AIRSPACE CHARACTERISTICS - Superseded by 12/71
- 15/68 HAZARDS and OBSTRUCTIONS - Superseded by 12/71
- 23/68 AERODROMES - LAND - Superseded by 12/71
- 26/68 HAZARDS and OBSTRUCTIONS - Superseded by 12/71
- 29/68 HAZARDS and OBSTRUCTIONS - Superseded by 12/71
- 31/68 HAZARDS and OBSTRUCTIONS - Superseded by 12/71
- 13/69 HAZARDS TO AIR NAVIGATION - Superseded by 12/71
- 17/69 AIRSPACE CHARACTERISTICS - Superseded by 12/71
- 21/69 RADIO - Sufficiently advertised
- 2/70 HAZARDS and OBSTRUCTIONS - Superseded by 12/71
- 5/70 AERODROMES - LAND - Superseded by 12/71
- 13/70 AERODROMES - LAND - Superseded by 12/71
- 15/70 HAZARDS and OBSTRUCTIONS - Superseded by 12/71
- 19/70 HAZARDS and OBSTRUCTIONS - Superseded by 12/71
- 20/70 RADIO - Sufficiently advertised
- 22/70 AIR TRAFFIC CONTROL - Superseded by 12/71
- 23/70 HAZARDS - Superseded by 12/71
- 2/71 AIR TRAFFIC CONTROL - Superseded by 12/71
- 13/71 CANCELLED - Time Expired - August 25th, 1971



SUMMARY

1st. October, 1971

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WHERE TO FIND IT

Flight Information Manual (1971) Catalogue No. T53-5/1971	Price \$5.00
Aircraft Operating Instructions, General, Catalogue No. T52-2063	5.00
Air Navigation Radio Aids, published in quarterly editions, Catalogue No. T51-6/volume 25/(state quarter required)	.40

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